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Culinary Industry Practitioners and Educators' Perceptions of Core Competencies for a Four-Year Bachelor's Degree in the Culinary Arts

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CULINARY INDUSTRY PRACTITIONERS AND EDUCATORS' PERCEPTIONS OF CORE COMPETENCIES FOR A FOUR-YEAR BACHELOR'S DEGREE IN THE CULINARY ARTS

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Abstract

The purpose of this study was twofold; to survey practitioners and educators to rank their perception of the importance of culinary manager trainee competencies that would prepare students for an entry-level managerial position in the culinary industry; and then to assess the curricula of the five highly-ranked culinary arts programs in the United States and determine whether competencies deemed essential by practitioners and educators are embedded within the curricula of the five highly-ranked Bachelor's degree programs in the culinary arts. Practitioners and educators considered the competencies pertaining to interpersonal skills to be the most important aptitudes for students pursuing a Bachelor's degree in the Culinary Arts, and considered the competencies pertaining to conceptual skills to be the least important. The curriculum assessment indicated that the highly-ranked culinary arts programs did integrate some, but not all of the core competencies identified by the educators and practitioners as being of moderate importance to essential.

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Introduction

The Emergence of Culinary Arts Programs

The seeds of contemporary vocational programs can be traced back to the Morrill Acts of 1862 and 1890, which provided land for universities designated as "colleges of agriculture," "colleges of mechanic arts," or "colleges of agriculture and mechanic arts." Their purpose was to "promote the liberal and practical education of the industrial classes in pursuits and profession of living" (Gordon, 2003, p. 41). Prior to 1862, universities were training individuals in the areas of education, law, medicine, teaching and the ministry. The Morrill Act of 1862 was significant as it was the first legislation to support Vocational Education. The Morrill Act was followed by the Smith-Lever Agricultural Extension Act of 1914 and the Smith-Hughes Act of 1917 which provided the needed funds to finance vocational education.

The Smith-Lever Agricultural Extension Act of 1914 provided funding for the establishment of cooperative extension work in agriculture and home economics. This act was significant in the history of vocational education as it was the first act which established for the first time the 50-50 matching of funds by state to federal funding thereby it "provided farmers and homemakers needed training in demonstrations and project work at the farm and in the home as vocational education of less than college work" (Scott/Sarkees-Wircenski 1996, p. 121). The Smith-Hughes Act of 1917 was significant as this laid the foundation for federal support for vocational education through federal funding. This funding was appropriated to federal boards for the purpose of establishing and operating programs in public institutions, state boards for the purpose of appropriation for teacher salaries, supervision and direction of vocational education

areas (states were to pay half) and teacher preparation in the areas of agriculture, home economics, and trade and industrial subjects (Smith-Hughes Act of 1917 Pub L. No. 64-347 & 114, 39 Stat. 929).

Nearly a half century later, the passage of The Vocational Act of 1963 was a significant piece of legislation as it marked a new era for vocational education. It sought to maintain, extend, and improve existing programs of vocational education, to develop new programs of Vocational Education and to provide part-time employment for youths who needed the earnings to continue their vocational training on a full-time basis so that persons of all ages in all communities of the state-those in high school, those who have completed or discontinued their formal education and are preparing to enter the labor market but need to upgrade their skills or learn new ones and those with special educational handicaps-will have ready access to vocational training or retraining which is of high quality which is realistic in the light of actual or anticipated opportunities for gainful employment and which is suited to the needs, interests, and ability to benefit for such training (Vocational Education Act of 1963 Pub L. No 88-210 & 1 77 Stat. 403).

Most recently, the Carl D. Perkins Vocational Education Act of 1984, amended the Vocational Act of 1963 and was instrumental in broadening the definition of Vocational Education as well as expanding the delivery systems of Vocational Education today. The two major goals were economic and social. The first goal (economic) was to improve the skills of the labor force and prepare adults for job opportunities. The second goal (social) was to provide equal opportunities for adults in vocational education (Gordon, 2003). This act was further amended by the Carl D. Perkins Vocational and Applied Technology Education Act of 1990 (PL101-392) and replaced by the Carl D. Perkins Vocational and Technical Education Act of 1988 (PL105-332), which included provisions for research (Gordon, 2003).

The Vocational Act of 1963 coupled with the increase in federal funding had a major impact on the construction of many modern vocational schools nationwide. In the 1960s and 1970s, vocational education experienced an unprecedented growth. This had a domino effect on the development of secondary school programs in the culinary arts. Prior to 1963, little formal vocational culinary arts training was available. With this change, American-trained chefs were in a position to compete with their European counterparts. This resulted in an upward surge in both the range of courses being offered and an improvement in facilities. Prior to the passing of the Vocational Act of 1963, there were very few schools that offered programs specializing in the vocational culinary arts and an individual's options for training in the culinary arts were extremely limited (VanLandingham, 1994). Training options included either many years of on-the-job training, which was not as sophisticated as the European apprenticeship, or receiving food service training while in the military. With the passage of the Vocational Education Act in 1963, many new programs were introduced and, students on the high school level were being trained with state of the art equipment in the culinary arts (VanLandingham, 1994).

Subsequently, in 1973, with the formation of the National Consortium of Competency Based Education, there was a shift from the traditional credit-hour based instruction to a competency based program approach. The competency based education focused on skills, theory and evaluative processes which measured the ability of the student's job skills to match with what is expected of an employee to possess in order to maintain employment (VanLandingham, 1994). With the inception of the competency based education came a major shift in the culinary industry, away from cooking as a trade, vocation, or a craft.

The American Culinary Federation (ACF), established in 1929, had worked diligently to enhance the professional growth for current and future chefs by providing educational programs, certifications, competitions, and networking to enhance the professional growth for chefs. As a

result of strong lobbying by the American Culinary Federation (ACF), the United States Department of Labor recognized cooks and chefs as professionals. In 1976, the United States Department of Labor (as cited in ACF, n.d.) upgraded its definition of chef from the designation of domestic to professional.

With this change in nomenclature came a heightened awareness of the need to better train culinary professionals, resulting in the need for further education in the culinary arts. In 1974, the ACF began a professional certification program which measured a chef's level of competency against international culinary standards. Standards included competency in areas relating to sanitation, nutrition, and supervision. This laid the groundwork for the professional recognition in a variety of professional culinary career tracks including cooking, pastries, education, and administration (Baskette & Barnes, 2006). In 1976, the American Culinary Federation Educational Foundation (ACFEF) launched a globally lauded apprenticeship-training program for culinarians and baking/pastry cooks. In 2009, the US Department of Labor (as cited in ACF, n.d.) awarded ACFEF a grant for the Apprenticeship Program to advance the growing needs of apprenticeship in the 21st century, indicating industry sanctioned training and support for chefs in high demand in areas that lead to a higher-wage career path.

The demands placed on chefs today have necessitated the development of a more intense training program for those students demonstrating the potential to be leaders in the field of culinary arts. In the last decade, with the heightened excitement surrounding celebrity chefs and the enhanced decision-making skills of food-service professionals, 4 year bachelor-degree programs in the culinary arts have emerged. With the emergence of the culinary arts as a profession, new schools were established and more advanced curriculums were developed under the guidelines set forth by the federal government. These programs came about as a result of desire to improve and provide a base for a professional career in the culinary arts.

Historically, post secondary culinary programs offered a culinary certificate and/or offered a 2-year associate degree primarily training students for entry-level positions in the industry. For example, in 1946, the Culinary Institute of America, (CIA) was one of the first colleges to offer an educational program in professional cooking. Johnson and Wales University was the first higher education institution to offer a 4-year Bachelor of Science degree of its kind in the United States in 1973. The following colleges also saw a need for advanced culinary curricula and established programs to meet the demand for professional culinary training; Kendall College (1990), University of Nevada (1998), and Cornell University (in partnership with CIA) in 2006. Today there are more than 1,000 professional-track culinary educational programs in the United States, and approximately 229 Bachelor degree programs with a culinary arts component (Baskette & Barnes, 2006).

Background of the Study

According to the 2010 National Restaurant Association Restaurant Industry Forecast, restaurant sales are estimated to reach 580 billion dollars in 2010, a dramatic increase from 1980 sales of $119.6 billion dollars. The overall economic impact of the restaurant industry is expected to exceed $1.5 trillion in 2010.

According to the National Restaurant Association (NRA, 2010), the industry is expected to employ about 12.7 million people this year, or 9 percent of the workforce in 2010. Currently, restaurants employ 1 in 10 working Americans. According to the NRA, by 2020, the industry is projected to employ 14 million people-an increase of 1.3 million jobs in the last 10 years. Restaurants will add jobs in all job categories with the strongest gains expected among positions that combine food preparation and service. In addition, management jobs in restaurants are expected to grow about 8 percent by 2020. It is estimated that during this period, jobs for head cooks and chefs should grow by 11 percent. The number of front-line supervisors and managers

of food preparation is expected to grow more than 12 percent by 2020 (National Restaurant Association, 2010).

Due to the downturn in the economy, consumers are not eating out as often as they like and they have a tendency to patronize restaurants they believe offer value for their money. Consumers also are showing a greater interest in eating locally grown foods, and also are increasingly interested in ethnic cuisines. Restaurant and food-service operators are working to meet consumers' demand for convenience and variety while also building sales by marketing healthful menu items. Limited-service (quick service) restaurants projected sales increase of 3.0% is indicative of the consumer's quest for value and convenience (National Restaurant Association, 2010).

Demographic changes including the aging of the baby boomers, the rise of two-income families, and the resultant increase in disposable income can be tied to the shift in dining outside of the home. Home meal replacement (HMR), evident in prepared complete meals in supermarkets and specialty shops combined with the escalating trends in delivery and take-out service indicate that consumers are increasingly relying on the culinary skills of professionals more than any other time in history. With this relatively new shift in industry, there is a greater demand on culinary schools and organizations affiliated with the culinary industry to ensure that culinary students have the required skills necessary to meet this demand.

With the growing surge in culinary schools in the mid 1980's, chefs and educators requested that the American Culinary Federation Educational Institute (ACFEI), the educational arm of the American Culinary Federation (ACF), conduct an analysis to determine the criteria needed for accreditation of culinary programs. Culinary professionals recognized a need for standards and guidelines to be implemented into the programs that would match the needs of industry. The standards included adherence to sanitation and safety processes, professionalism,

food preparation and service. In 1986, the ACFEI adopted the ACFEI Accrediting Commission, known as the American Culinary Federation Foundation Accrediting Commission (ACFFAC), which is now responsible for the accreditation and curriculum design of postsecondary culinary programs in the United States (ACF, n.d.).

According to the ACF, participation in post- secondary institutions helps to ensure that students are well trained, competent and employable. ACF accreditation requires that curriculum, faculty, facilities, resources, support staff, and organizational structure all meet the standards set by the Accrediting Commission. Since these standards are set by industry leaders and monitored, they are perceived in the industry to be the foundation for excellence in the culinary arts.

Problem Statement

In the last 20 years, the emergence of the culinary arts as a profession coupled with the growth of the restaurant industry has had a dramatic impact on the expansion and academic advancement of culinary schools. There has been a disconnect evident since the emergence of culinary programs; faculty at the university level have argued that their expertise alone can effectively guide curriculum development, yet the bottom line for hospitality leaders is that positioned at the front lines of the industry, they are the ones truly cognizant about needed management competencies.

Certain considerations are essential for the development of the culinary arts as an academic discipline. Some questions which need to be addressed include; "What abilities, knowledge, or competencies do graduates need to be successful in the workplace?" (Dopson & Tas, 2003). Are graduates from Hospitality and Culinary Arts programs industry ready? What do industry practitioners believe are the essential competencies which should be integrated into bachelor degree culinary arts programs? Do educators agree?

Is the role of an entry-level culinary manager that of a hands-on technician, or an entry-level manager supervising front-line subordinates and directing daily operations? Should an entry-level culinary manager be concerned with interpersonal relations and compliance issues, or merely with food preparation and delivery? Should a culinary manager trainee take the same management courses as a hotel management major, or is the difference in the skill-set and delivery so great that culinary mangers should be exposed to a completely different training regimen than entry-level hotel managers?

Paulsen (2001) argues that changes in the vocational system are based on a curriculum which focuses on competencies and experiential learning. She posits that it is the familiarity with what employers require of graduates and the connection to skills needed in the workplace that will play a pivotal role for institutional researchers and academia in the foreseeable future (Paulsen, 2001).

According to Mayo (2002) little research has been conducted in the use of competencies as a basis for assessment of students. Competency-based learning, specific to the Culinary Arts, is still in its early stages of development. It is necessary that culinary programs maintain a current state of evolution where they change their curriculum to keep pace with, or exceed, the needs of the hospitality and culinary industry. Pursuing this work will close the gap between what students are taught and the industry's expectations of student's competencies. Soliciting industry input is critical in this process. With information from industry experts, faculty can make the necessary changes within the curriculum to effectively prepare students with competencies that will be meaningful to students as they pursue their careers in the industry.

Vocational programs such as Hospitality Management and the Culinary Arts typically employ educators who are industry veterans. Although Educators may stay connected to industry trends through professional networking and required educational training, if a direct

conduit to the industry such as an advisory board does not exist, a disconnect may develop between perceptions of pertinent industry competencies versus competencies deemed essential based on changing demographics, technology and industry demands.

By surveying educators, a determination can be made whether there is a gap between the list of competencies deemed as critical components of culinary arts degree programs so that the curriculum can be developed and/or redeveloped so that there is synergy between the academic programs and culinary industry needs. Furthermore, since many of the culinary arts programs have been connected to hospitality management programs, questions may arise regarding whether the content of the curriculum is appropriately suited for a culinary arts degree major. A hoped for result of surveying both educators and industry practitioners is that the feedback can be integrated to address and lessen the gap between practitioners and educators so that a professional culinary arts curriculum can be developed to meet the tremendous growth surge in the industry.

Academic literature related to core competencies and curriculum necessary for honing the abilities and skills needed by culinary professionals range from sparse to non-existent. This is due, at least in part, to the fact that the field in its infancy stages, also witnessed the early emergence of culinary schools as vocational/technical schools. The symbiotic connection to hospitality management programs also affected the nature of content and orientation of curriculum and skill sets targeted by academic culinary arts programs.

Unprecedented growth is estimated in the food-service industry in the next decade, with a resultant need for highly trained culinarians. While only a handful of culinary programs existed several decades ago, it is estimated that there are approximately 1,000 professional culinary arts training programs. This growth requires the need for synergy between the academic programs and culinary industry needs.

Although the number of bachelor degree programs has increased to meet the need for trained culinarians, the existing literature on core competencies and curriculum is extremely limited. The curricula that have emerged may simply be based on necessity rather than representing the necessary skill set of an entry-level culinary training manager. With this need for trained culinarians, a gap has been identified between the professional needs of the industry and the current curricula at the bachelor's degree programs in the Culinary Arts.

This study conducts a survey of both industry practitioners and educators in an attempt to generate a list of competencies, identified by both groups, as critical components of culinary arts degree education programs. The input of educators is deemed important due to several reasons including; faculty relies on input from industry to glean the competencies deemed essential so that educators can ensure these competencies are embedded in the curricula. Also, faculty can make the necessary changes within the curriculum to effectively prepare students with competencies that will be meaningful to students as they pursue their careers in the industry. The academic training of culinary arts experts at the bachelors degree level requires the input of higher education specialists in areas such as finance, management economics, psychology and other disciplines related to the acquiring of management skills and capacities. It is the convergence of the skills deemed essential by practitioners and the academic management training provided by higher education that will ensure synergy between the academic programs and culinary needs.

Purpose of Study

The purpose of this study was to identify the core competencies needed in a bachelor's degree program that would appropriately prepare students for an entry-level culinary arts manager trainee position in the culinary industry. More specifically, by utilizing the results of this study as a foundation for developing or redesigning a culinary arts curriculum, educators can

ensure that students are exposed to courses, competencies and experiences deemed important by culinary educators and practitioners. Culinary educators will be able to use this study as a working document to benchmark their curriculum and improve the quality of their programs. Second, by recommending the core competencies to be incorporated into a culinary arts curriculum, this study attempts to ensure that aspiring culinarians receive industry cutting-edge industry training and education, at the technical and conceptual level which would mirror the demands of the industry today and prepare students for a professional career in the culinary industry.

This dissertation attempts to fill in the gap in the literature on core competencies needed in the Culinary Arts. Hospitality management programs at the bachelor's level and culinary programs at the associates level could use this information to enhance their curriculum base with a culinary component endorsed by culinary industry veterans.

Research Questions

Overarching research question that guides this study is: What are the recommended core courses for a 4-year bachelor's degree program in the Culinary Arts which includes the competencies suggested by industry practitioners and culinary educators and which mirror the existing core competencies in the five highly-ranked bachelor's degree programs in the Culinary Arts?

Subsidiary Questions

In an attempt to identify the competency-based core curriculum in the culinary arts, this study addresses the following subsidiary questions.

1. What do culinary industry practitioners and educators' believe are the most important core competencies that should be integrated into a 4-year bachelor's degree program in the Culinary

Arts to help students learn the appropriate technical and professional skills necessary for success in the field?

2. Do industry practitioners and culinary educators (Beard Foundation Professional members and ICHRIE members) differ in the recommended core competences necessary for a bachelor's degree in the Culinary Arts?

3. To what extent are competencies deemed essential by industry professionals and educators embedded within the courses required by highly-ranked bachelor's degree programs in the culinary arts?

Overview of Methodology

This study employed a quantitative analysis using the survey method to determine the importance that culinary industry practitioners and educators place on specific management competencies. The survey questionnaire, which contains job competency criteria pertaining to technical, conceptual and human relation skills, was distributed electronically to industry practitioners and educators. Industry practitioners and educators were asked to identify and then prioritize the specific competencies they deem essential for success in an entry-level managerial position in the culinary arts. Concurrently, a curriculum assessment of highly-ranked bachelor's degree programs was performed to identify whether the competencies deemed essential by practitioners and educators were embedded within the curriculum of each culinary school.

Significance of the Study

"What abilities, knowledge, or competencies do graduates need to be successful in the workplace?" (Dopson & Tas, 2003). Are graduates from Hospitality and Culinary Arts programs industry ready? According to Mayo (2002), little research has been conducted to use competencies as a basis for assessment of students. Assessments of hospitality baccalaureate

student competencies can monitor the quality of instruction and predict to some extent the potential success of graduates.

As early as the 1920's, when the first 4-year college-level program in hospitality management was established at Cornell University, educators sought industry leaders' advice and feedback regarding the essential competencies that graduates needed for career success (Kay & Russette, 2000). Over the years, there has been a shift in the type of skills needed by entry-level hospitality and food and beverage managers. There has also been a disparity between the competencies deemed "essential" by educators, yet less important by practitioners. Specifically, between 1988 and 2000, a myriad of competency studies specific to the hospitality industry was conducted, shedding light on the competencies which industry practitioners and educators deemed were important for success in the industry.

According to Karen Paulsen (2001), content is not the central issue in a competency-based curriculum; the curriculum should focus on competencies and experiential learning. It is imperative that the assessment and monitoring of what is learned and acquired relevant to performance is evaluated. Paulsen (2001) believes that higher education has become extremely sensitive and accountable to industry needs. Thus, learning should be closely tied to competencies and performance-based assessment (Paulsen, 2001).

Competency-based learning specific to the Culinary Arts is still in its infant stage of development. It is necessary that culinary programs maintain a current state of art where they change their curriculum to keep pace with, or exceed the needs of the hospitality and culinary industry. Soliciting industry input is critical in this process. Although faculty at the university level will argue that their expertise can effectively guide curriculum development, the bottom line is that it is the hospitality leaders in the front lines of the industry that are really cognizant about needed management competencies. With this information from industry experts, faculty

can make the necessary changes within the curriculum to effectively present competencies that will be meaningful to students as they pursue their careers in the industry.

Given the rapid growth in the culinary field and the changing needs of the industry, this study hopes to determine how academic institutions create appropriate learning environments that will provide students with the needed competencies to achieve success in an entry-level managerial position in the culinary industry.

Since the focal point of this study is to identify industry specific requirements in the culinary field, it is hoped that this study will be a valuable working tool for culinary educators in post-secondary education. By understanding culinary arts practitioners regarding perceptions of the hierarchy of competency levels, educators can appropriately prepare students with the required knowledge and training needed to match their education with the professional needs of the industry.

Prior to discussing the individual competency studies pertaining to the Hospitality and Culinary industry, understanding the key definitions utilized within the analysis is at the study's core.

Definitions

American Culinary Federation (ACF) began its professional certification program in 1974 as the culinary industry's very first attempt to measure a cook or chef's level of competency and match those competencies to national and international culinary standards. Today, the ACF is a very large international network of professional cooks and chefs and has expanded to providing certification to a variety of multiple career tracks in the culinary industry. Additionally, the ACF is very involved in professional development and education through apprenticeship programs and through its alliance with educational institutions (Barnes & Baskette, 2006).

CHRIE (I-CHRIE), an acronym for The Council on Hotel, Restaurant and Institutional Education, is the primary professional organization to which hospitality educators belong and the body responsible for the planning, development, and implementation of the accreditation process for programs in hospitality administration. CHRIE organized the Accreditation Commission for programs in Hospitality Administration (ACPHA). Although CHRIE began considering the processes and standards for accreditation for hospitality programs in the early 1980's, the Commission adopted formal accreditation status in 1990, and by March, 1996, had accredited 33 bachelor degree programs.

The literature search revealed numerous definitions for the word "*competency.*" The New Zealand Qualifications Authority (NZQA) (1997) defines competency as the ability of individuals to apply knowledge, skills, attitudes and values to standards of perfection required in specific contexts. According to Boam and Sparrow (1992) competency is an input measure where competency is seen as any aspect of the inner person, normally displayed as behaviors, which allows them to perform competently, in other words, *competency* is an output or outcome measure. Burkett (1993) sees competency in a similar manner, in which competency is related to the manner in which individual attributes, such as knowledge, skills and attitudes, are drawn on in performing tasks in specific work contexts-resulting in overall job performance (Rains bury, Hodges, Burch ell, Lay, 2002).

Core competency refers to organizational capabilities or strengths; what an organization does best. A core competency might be product development or customer service (Mirabile, 1997, p. 75). A core competency is one that is a principal or critically essential competency for successful job performance for a given job at a given level in an organization hierarchy (Dubois, 1993, p. 318).

Curriculum is an organized set of experiences to which learners are subjected so that their behavior will be modified in a desired and predetermined manners (Dopson & Tas, 1998, p. 39). Curriculum can be viewed more concretely when discussed as a plan for students' academic development (Stark & Latucca, 1997, p. 22). George Posner, of Cornell University had the best definition of curriculum which will be used as the basic of the analysis for this study. Posner's definition was that "curriculum is defined as a standard series of intended learning outcomes" (Johnson, 1967, p. 63) A curriculum, according to this conception, consists of a series of intended learning outcomes organized into some structural arrangement (Poser, 1998, p. 401).

An *attitude* is a persistent state that modifies an individual's choice of action with regard to objects, persons, or events (Gagne & Briggs, 1979).

A *competency model* includes those competencies required for satisfactory or exemplary job performance within the context of a person's job roles, responsibilities, and relationships in an organization and its internal and external environments (adapted from Boyatzis, 1982).

Job competence is an employee's capacity to meet or exceed a job's requirements by producing the job outputs at an expected level of quality within the constraints of the organization's internal and external environments (Dubois, 1993, p.9).

Job competency is an underlying characteristic of an employee (i.e., motive, trait, skill, aspects of one's self-image, social role, or a body of knowledge) which results in effective and/or superior performance in a job (Boyatzis, 1982, pp. 20-21).

A *competency model* is a descriptive tool that identifies the knowledge, skills, abilities, and behavior needed to perform effectively in an organization. (Lepsinger & Lucia, 1999).

A *competency-based curriculum* is one whose content specifications are defined in competence terms (Dubois, 1993, p.9).

Curriculum integration is a curriculum planning process that ensures the inclusion and development of the critical job competencies, each at their appropriate levels of subject-matter content depth and breadth across all elements or strata of an organization's performance improvement curriculum. "Appropriate" in this case means that the subject-matter content is developed at the precise level that is required in order to enhance the probability of the employees' achievement of the job outputs within expected levels of quality (Dubois, 1993, p. 318).

A *hotel-manager trainee* refers to a professional recently hired for an entry-level managerial position in a full-service hotel. Hotel manager trainee is a position title currently used by companies such as Hyatt, Marriott, and Bristol Management Corporation.

The *cognitive domain* includes "objectives which emphasize remembering or reproducing something which has presumably been learned, as well as objectives which involve the solving of some intellectual task for which the individual has to determine the essential problem and then reorder given material or combine it with ideas, methods, or procedures previously learned" (Krathwohl, Bloom, & Masia, 1964 p. 6).

The *affective domain* includes objectives that "emphasize a feeling tone, an emotion, or a degree of acceptance or rejection"(Krathwohl et al., 1964, p.7). These learning objectives have also become known in HRD as an individual's "attitudes" (Dubois, 1993, p. 152).

The *psychomotor domain* includes objectives that "emphasize some muscular or motor skill, some manipulation of material and objects, or some act which requires neuromuscular coordination" (Krathwohl et al, 1964, p. 7).

The terminology of *vocational education* has never been exact: the words *terminal, vocational, technical, semiprofessional, occupational*, and *career* have all been used interchangeably or in combination, as in vocational-technical (Cohen & Brawer, 2003, p. 222).

To the commission and the colleges of 1940, *terminal* meant all studies not applicable to the baccalaureate, but programs designed to lead to employment dominated the category. Previously, *vocational* had generally been used for curricula preparing people for work in agriculture, the trades, and sales. *Technical* implied preparation for work in scientific and industrial fields. *Occupational* seemed to encompass the greatest number of programs and was used most often for all curricula leading to employment.

Career education was coined in the 1950's to connote lower-school efforts at orienting young people toward the workplace. All of the other definitions (terms) are in use with the exception of terminal (Cohen & Brawer, 2003, p. 224).

Hospitality is a contemporaneous human exchange, which is voluntarily entered into, and designed to enhance the mutual well being of the parties concerned through the provision of accommodation, and/or food and/or drink (Morrison & Mahony, 2003, p. 193).

Hospitality industry is comprised of commercial organizations that specialize in providing accommodation and/or food and/or drink, through a voluntary human exchange, which is contemporaneous in nature, and undertaken to enhance the mutual well being of the parties' concerned (Brotherton & Wood, 2000, p. 14).

James Beard Foundation is considered the premiere culinary organization in the country, dedicated to James Beard, a noted culinarian and educator. It is a philanthropic organization located in Greenwich Village, New York City, in the nation's only registered culinary landmark. The Foundation programs include educating consumers regarding food and culinary contributions, in addition to supporting education through numerous scholarships, involvement in fundraisers and support of various programs including the Food Bank, and Feeding America. The Foundation has a very loyal upper echelon "client-consumer" membership primarily

residing in the northeast which it secures by honoring and showcasing the greatest culinary talent in the world.

Summary

The seeds of vocational education were planted as far back as the Morrill Acts of 1862 and 1890. The Vocational Act of 1963 caused a spiral effect on the construction of modern vocational schools, and the subsequent development of secondary school programs in the culinary arts. As the culinary arts emerged into a profession, the ACF worked diligently to support the professional development and education of chefs. In 1974, the ACF began a professional certification program which laid the foundation for industry standards relating to sanitation, nutrition and supervision. In 1976, the United States Department of Labor (as cited in ACF, n.d.) upgraded its definition of chef from the designation of domestic to professional.

In 1946, the CIA was one of the first and only colleges to offer an educational program in professional cooking. Today, there are more than 1,000 professional-track culinary educational programs in the United States, and approximately 229 bachelor degree programs with a culinary arts component (Baskette & Barnes, 2006). With this growth, academics and practitioners have questioned the competencies and skills-sets that should be integrated into a culinary arts degree curriculum. Specifically, should an entry-level culinary manager be concerned with interpersonal relations and compliance issues, or merely with food preparation and delivery? Should a student studying the culinary arts partake in hotel management courses?

The purpose of this study is to; (a) identify the core competencies needed in a Bachelor's degree program that would appropriately prepare students for an entry-level position in the culinary industry, and (b) determine whether the competencies deemed essential by practitioners and educators are embedded within the courses required by highly-ranked bachelor's degree programs in the Culinary Arts. It is hoped that the results of this study may be

used to develop or redesign culinary arts curriculum and to ensure that students receive the training and education which mirrors the demands of the industry and appropriately prepares students for a professional career in the culinary industry.

Chapter Two

Literature Review

The foundation of the competency movement in the hospitality industry began with Dr. Richard Tas in 1983. Since the researcher obtained permission to incorporate his work and use his survey instrument in this study, the literature review will explore his initial work and lay the foundation for comparative studies that were completed between 1983 and 2000. Researchers in the last two decades have expanded Tas'work to include both industry practitioners and educators. Additionally, the survey instruments have been modified over this time period to include other functional hotel operating departments.

The literature review that follows begins with a discussion of the rationale surrounding the inclusion and exclusion of literature for this study. This is followed by a history of competency models specifically addressing the connection between Hospitality Management and the Culinary Arts. Specifically, this section will focus on the connection between the fields of study, the diffused identities, and the burning need for academia to bridge the gap through a sound curriculum base which connects industry and educator needs.

The majority of the literature is based on studies that focused on entry-level management competencies in the functional departments of hotels including the food and beverage departments. Since competency studies focusing specifically on Culinary Arts trainees do not exist, the study will draw on findings from food and beverage related industries gleaned from the literature review. To add credence to these findings, the competencies will be analyzed by a consulting team in an effort to add, delete and/or support the findings from the literature review. Concurrently, certification information from culinary professional associations will be analyzed.

Based on this research and in-depth analysis, there will be conceptual model for culinary manager trainee competencies along with a proposed survey for hospitality educators and

industry practitioners created. These survey tools will be used to gain a further understanding of the core competencies which should be incorporated into a core curriculum for a bachelor's degree in the Culinary Arts.

Scholarly Research – Inclusion and Exclusion of Literature

Due to the limited studies pertaining to food-service and the Culinary Arts, the literature review draws on competency studies done in the last three decades with a focus on the hospitality industry. Surveying the existing literature that addressed competency studies in the hospitality industry is relevant due to its similarities as an emerging field, its placement with the Culinary Arts as a dual degree, and its rise from a craft to a profession. While it can be argued that these studies do not apply, competency studies specific to the Culinary Arts and/or the food service industry are sparse. Although there are several studies which focused on entry-level food service competencies, studies focusing on culinary manager trainee competencies do not exist. In the following section, for each set of competencies/theorists, the appropriateness of the research methods, the practical significance of the research and the scholarly significance of the research will be assessed in more detail.

Due to the infancy of the culinary arts as a field of professional study, the only research which specifically focused on the culinary arts as a field of academic study was several dissertations in the past 20 years. Since studying competencies is also a relatively new area of research, the information uncovered in the literature which addressed culinary competency research is non-existent. Therefore, the following criteria are used for inclusion and exclusion of research pertaining to the literature review. The following hotel and food-service competency studies will be included in this study for comparative purposes; competency studies specific to entry-level hotel departmental positions, food-service related competency studies including restaurants, food service and catering, and international hospitality and food-service related

competency studies. Competency studies which will be excluded from the study include; competency studies specific to middle and senior management, food and beverage studies pertaining to the leisure market, and competency studies specific to associate and certificate degree programs.

Competency Models in Professional Education; A Brief History

As early as the 1920's, when the first 4-year college-level program in hospitality management was established at Cornell University, educators sought industry leaders' advice and feedback regarding the essential competencies that graduates needed for career success (Kay & Russette, 2000). Specifically, between 1988 and 2000, a myriad of competency studies specific to the hospitality industry were conducted, shedding light on the competencies which industry practitioners and educators deemed were important for success in the industry. A search of the literature available on the subject reveals that prior to 1988 studies on the subject were limited, and little attention was paid to the concept of competency as it was later defined. Over the last 20 years, there has been a shift in the type of skills needed by entry-level hospitality and food and beverage managers. There has also been a discrepancy between the competencies considered essential by educators and by practitioners. Due to the paucity in the literature of studies that addresses any competencies specific to the culinary industry, competencies pertaining to entry-level hotel managers will be mirrored in the culinary manager trainee competencies since it is expected that the managerial skill set of both may be considered comparable.

Similar to the development of the Culinary Arts, with its vocational base and emergence initially as a craft, Nailon (1982) argues that the curriculum in hospitality education also originated from a vocational base, and he maintains that the traditional approach to hospitality education was based on an amalgam of craft, ritual and inherited practices. Although a craft

typically is indicative of a competency-based skill, over the years, academics have argued whether a hospitality and/or culinary arts degree is competency-based. A search of the literature pertaining to hospitality education indicates that hospitality management education is a field of academic study that has struggled for many years for definition (Mahoney & Morrison, 2002).

In 1982, Nailon stated that "what seems to be missing in the hospitality curriculum is any general agreement of a conceptual statement about the constituent parts of a theoretical framework and body of knowledge which constitutes hospitality management" (p. 135). In David Pavesic's (1991) article, focusing on the prediction of Hospitality Education in 2005, industry expert Mary Tanke, chair of the Hospitality Industry's accreditation commission stated, "If hospitality education is to continue to evolve and to strengthen its academic and professional credibility, curricular design must favor the more traditional academic models. This does not bode well for integrating culinary arts into hospitality management programs" (p. 35).

Traditional not-for-profit 4 year academic institutions are not interested in what they view as vocational and technical training. "Combining both culinary arts and management is a tall order, if such a mixed marriage is to take place, it will require a very open and liberal-minded university administration to support it" (Pavesic,1991, p. 35). Despite this dismal prediction, on a more optimistic note, Pavesic predicted that there will be a continued demand for graduates of culinary programs and their numbers will grow. Also, predicted was that certification programs would be of growing importance in all segments of the hospitality industry (Pavesic, 1991).

In the 1990's, Hegarty (1992) further supported the need for a new paradigm for tourism and hospitality education stating that the missing link was the inclusion of philosophy and ethics in the development of a framework for hospitality education. In the late 1990's, Ingram (1999) advocated for the development of learning frameworks by which students can be taught, with the goal of increasing the labor pool of better trained and more competent managers and skilled

workers . According to Ashley and Morrison (2000), this much needed comprehensive theoretical framework, defining hospitality as an academic field, has not been clearly defined. Subsequently, many academics argue that this lack of definition has detrimentally impacted the formation of an effective hospitality curriculum.

According to I-CHRIE's *Guide to College Programs* (2008), during the past two decades, hospitality and tourism education has grown significantly. In the early 1970s, there were approximately 40 4-year programs in the United States that offered degrees in hospitality management or hotel and restaurant management. In 2006, I-CHRIE estimated that there were over 170 hospitality programs granting baccalaureate degrees and more than 800 programs offering associate degrees, certificates or diplomas. In 2010, ACF estimates that there are 1,000 programs offering professional culinary training programs, and ICHRIE estimates that there are approximately 229 hospitality programs offering a culinary arts component. This explosive growth, coupled with the rapid increase in the food sector resulted in hospitality programs which lacked any sort of consistent thread.

On the most basic level, the newly emerging programs needed to somehow fulfill the needs for curricula which met the demands of academia and industry. The industry was demanding a manager with a college degree who had specific qualifications for hospitality positions (Williams, 2005). Concurrently, industry was also cognizant of the need for ongoing communication between educators and industry as a link that was as critical and necessary as the design of the hospitality programs themselves (Williams, 2005).

Stutts (1995), Professor and Dean at the University of Houston, Texas concurs with this philosophy stating that the key to success for the future hotel, restaurant and hospitality manager is anchored in the continuing dialogue between educators and industry leaders concerning curriculum, students, facilities, and faculty. He believes that it is imperative for industry leaders

to share their changing needs, expectations and priorities with the educator, since the educator, in a sense is the "developer" of the human capital. To truly be successful, Stutts asserts that each course in a hotel, restaurant, and hospitality management program should be reviewed collaboratively by educators and industry leaders.

Although knowledge and adherence to the needs of industry are paramount, one cannot overlook the integral role that learning is tied to competencies and performance-based assessment of those competences. According to Paulsen (2001), it is the responsibility of higher education to integrate competencies into their pedagogy which align with industry needs thereby producing graduates that are leaders in the industry.

The History of Competency Models (Domains of Learning Objectives)

Competency-based education had its roots as early as the late 1950's with the publication of Bloom's (1956) *Taxonomy of Educational Objectives-Handbook I, Cognitive Domain:* eight years later, (Krathwohl, et. al., 1964) followed with a second volume, *Taxonomy of Educational Objectives-The Classification of Educational Goals, Handbook II: Affective Domain.* The response was almost immediate where educators began transforming their current curriculum into competency-based instruction (Brownell & Chung, 2001).

Through the concurrent work of psychologists Robert White and David McClelland, the idea of human competence was introduced into Human Resources in organizations. White (1959) isolated a human trait he named "competence." McClelland was the first to challenge the value of intelligence testing, the use of an "intelligence quotient," or IQ score, as a predictor of occupational, economic, and personal success in life. In 1973, McClelland (as cited in Dubois, 1993) observed that even though performance may be influenced by a person's intelligence, there are other personal characteristics, including motivation and self-image which operate

within the individual to differentiate successful from unsuccessful performance in a job role and in other life roles.

The work of McClelland and his associates resulted in the creation of a research process called the Job Competence Assessment Method (JCAM). In an article on the subject, George Klemp, Jr. (1982) wrote:

> Job competence assessment is a powerful new solution to the problem of how to hire and train people for maximum effectiveness. By pinpointing the key knowledge, abilities, and other personal characteristics needed to do a job well, job competence assessment departs dramatically from classical job analysis. It starts with a simple premise: the best way to find out what it takes to do a job is to analyze the job's outstanding performers and then to study what they do that makes them so effective. Job competence assessment is therefore not so much assessment of the job as assessment of the person who does the job (p.55).

Another area where McClelland pointed out this incongruity was demonstrated in his writing about hiring practices for civil service jobs. How necessary is it, he asked, for a prospective policeman to be able to spot the correct definition of the word "lexicon"? Does anyone really believe that a talent for finding analogies to words will make someone a good firefighter? McClelland took a hard stand that competency testing, especially in civil service jobs, should take the place of standardized tests. As he put it: "If you want to test who will be a good policeman, go find out what a policeman does. Follow him around; make a list of his activities, and sample from that list in screening applicants" (McClelland, 1973, p.7).

In 1973, McClelland and psychologist David Berlew founded the company McBer and formally put his ideas on competency testing into practice. From this time, competency studies have been used throughout the world in key Human Resource decision making decisions relating

to hiring, training, and evaluating and promoting associates and management. Although there have been many different types of competency models that have evolved over the years, the most effective ones share one common thread-determine what leads to superior performance and identify the top performers and find out what they do. The process is as follows; first, focus on highly successful people without making assumptions about their role, and second, pay attention to what they actually do (Dubois, 1993).

In 1973, McClelland published an article in the American Psychologist magazine taking a stand against grades in school, intelligence and aptitude tests and academic performance indicating that these factors only predicted job performance because of an underlying relationship with social status and that these types of tests were unfair to minorities and that competencies would be better able to predict important behaviors than would more traditional tests. McClelland's main argument was that intelligence tests and aptitude tests have not been shown to be related to important life outcomes because psychologists were unable and unwilling to test this relationship.

Competency-based models emphasize learner outcomes and suggest that regardless of how well planned the academic intervention, success can only be measured by the changes that take place in students' performances, whether demonstrating cognitive, affective, or skills-based learning (Brownell & Chung, 2001, p. 125). Although there has been much argument over the validity of McClelland's desire to test for competence versus intelligence, McClelland's competency theory and modeling has been incorporated in many of the top multinational corporations.

There are eight human resource activities that can be guided or enhanced with the use of a well-developed competency model (Chung-Herrera, Enzi, & Landau, 2003). These eight activities include; recruitment and selection, training and development, performance appraisals,

coaching, counseling, and mentoring, reward systems, career development, succession planning, and change management. The benefits of integrating a competency model into an organization are many including improved and consistent performance standards, a reduction in legal issues, and an anchor during periods of instability and change. However, the most important goal of competency models is to enhance a company's ability to communicate with its employees regarding the behavior connected with success, thereby increasing the firm's ability to achieve its business objectives (Chung-Herrera, Enzi, & Landau, 2003).

Internationally reputable and well-established lodging companies such as Marriott International and Choice make identifying leadership competencies a priority. By focusing on a competency based approach to development, companies can ensure that their aspiring managers have the skills and competencies for success, with the ultimate corporate goal of remaining competitive in a global marketplace. Identifying competencies in this fashion helps senior management select, develop, and coach future leaders in addition to mapping out career paths and plan management succession (Chung-Herrera, Enzi, and Landau, 2003).

Theoretical Framework - The Competency Domain Model

As early as 1955, in a Harvard Business Review article, "Skills of an Effective Administrator, Robert Katz, discussed his approach to the selection and development of administrators which is based not on what good executives are (their innate traits and characteristics), but on what they do (the kinds of skills which they exhibit in carrying out their jobs effectively) (Katz, 1955, p. 33). A skill implies an ability which can be developed, not necessarily inborn, and which is manifested in performance, not merely in potential. According to Katz (1955), effective administration rests on three basic developable skills; technical, human, and conceptual skills with identifiable traits are a key to understanding the administrative process.

A technical skill refers to an understanding of, and proficiency in, a specific kind of activity, particularly one involving methods, processes, procedures, or techniques (Katz, 1955). Technical skill involves specialized knowledge, analytical ability within that specialty, and facility in the use of the tools and techniques of the specific discipline. Most vocational and on-the-job training programs are largely concerned with developing technical skills (Katz, 1955).

At the lower levels of administrative responsibility, the principal need is for technical and human skills. As the administrator moves further and further from the actual physical operation, the need for technical skill becomes less important, provided he/she has skilled subordinates and can help them solve their own problems (Katz, 1995). Human skill seems to be the most important at lower levels, where the number of direct contacts between administrators and subordinates is greatest. At higher levels, technical skill becomes relatively less important while the need for conceptual skill increases rapidly (Katz, 1955). At the top, technical skill may be almost nonexistent, and the executive may still be able to perform effectively if his/her human and conceptual skills are highly developed.

Human skill is primarily concerned with working with people. An individual who possesses this type of skill set creates a work environment where subordinates are comfortable expressing themselves without fear and are comfortable participating in the planning and carrying out of those things which directly affect them. This individual is sufficiently sensitive to the needs and motivations of others in the organization so that the reactions to, and outcomes of, various courses of action can be understood. Real skill in working with others must become a natural, continuous activity, since it involves sensitivity not only at times of decision making but also in the day-by-day behavior of the individual. Because everything which an executive says and does (or leaves unsaid or undone) has an effect on associates, his/her true self will, in time,

show through. Thus, to be effective, this skill must be naturally developed and unconsciously, as well as consistently, demonstrated in the individual's every action (Katz, 1955).

Conceptual skill involves the ability to see the enterprise as a whole; it includes recognizing how the various functions of the organization depend on one another, and how changes in any one part affect all the others; and it extends to visualizing the relationship of the individual business to the industry, the community, and the political, social, and economic forces of the nation as a whole. To be an effective administrator, it is imperative that a business decision is based on full management support throughout the organization with a vision filtering down from the top as to the best suitable direction which will benefit the organization and its support system in its entirety (Katz, 1955).

As one moves up the organizational chain, the need for human skill becomes proportionately less. However, conceptual skill becomes increasingly more important with the need for policy decisions and broad-scale action. The human skill of dealing with individuals becomes subordinate to the conceptual skill of integrating group interests and activities into a coordinated whole (Katz, 1955).

At the top level of an organization, conceptual skill becomes the most important skill of all for successful administration. A chief executive may lack technical or human skills and still be effective if he has subordinates who have strong abilities in these directions. But if his conceptual skill is weak, the success of the whole organization may be jeopardized.

In a subsequent 1974 article, Katz states that his 20 years of reflection led him to the realization that managers at all levels require some competence in each of the three skills. Dealing with the external demands on a manager's unit requires conceptual skill, the limited physical and financial resources available to him tax his technical skill, and the capabilities and

demands of the persons with whom he deals make it essential that he possess human skill (Katz, 1974, p. 102).

In 1993, Paul Sandwith explored the nature of managerial work by directly observing, recording and analyzing the activities of managers on the job and expanded on Katz's Competency Domain Model from three categories to five areas of managerial competency domains. Sandwith believed that the newly identified categories which included Conceptual/creative domain, Leadership domain, Interpersonal domain, Administrative domain, and Technical domain provided for a clearer delineation of managerial competencies thereby enabling organizations to create appropriate learning or training responses and to create a comprehensive set of managerial competency framework for the planning of training and development within the organization.

Job competencies are activities and skills judged essential to perform the duties of a specific position. (Tas, LaBrecque, and Clayton, 1996, p. 91). Sandwith expanded Katz's three-prong model and developed the competency-domain model. The model comprises the following five areas, or domains, of managerial competency:

a. Conceptual-creative (the cognitive skills needed for the job)
b. Leadership (the ability to turn ideas into productive action)
c. Interpersonal (skills for effective interaction with others);
d. Administrative (personnel and financial management of the business); and
e. Technical (the knowledge and skills essential to producing the product or service) (Tas, LaBrecque, & Clayton, 1996, p. 91).

Perception of Industry Practitioners. Educators and Students

In the following section, the literature review will focus on synthesizing the findings from Tas's major surveys, and the subsequent surveys which used his survey instrument. Research by Tas in the late 1980's looked at GM-trainee competencies from a hotel-industry perspective. This was followed by a study in 1994 by Okeiyi, Postel and Finley who studied entry-level food and beverage competencies from the point of view of educators, employers, and students. In Tas's final study of property management competencies focusing on what employers wanted from management trainees, the researchers used Sandwith's competency domain model (Kay & Russette, 2000)

Research by Richard Tas in 1988 looked specifically at GM-trainee competencies from a hotel-industry perspective. The purpose of the study was to identify the most important competencies for hotel general-manager trainees (Tas, 1988) Tas sent the survey to 229 managers of hotels listed as having 400 or more rooms in the American Hotel and Motel Association's 1982 Hotel and Motel Red Book. The sample was stratified by the regional proportion of the total distribution of hotels. The survey consisted of 36 competencies which the General Managers were asked to rate on a scale of 1 (unimportant) to 5 (essential) by the General Managers (Tas, 1988). Of the 229 surveys that were sent out, only 75 General Managers responded. The respondents' ratings of each competency were averaged and competencies at 4.5 or higher were considered "essential", competencies rated from 3.5 to 4.49 were "considerably important, and competencies rated from 2.50 to 3.49 were "moderately important" (Tas, 1988).

Six competencies were determined to be essential for hotel-manager trainees. These competencies included managing guest problems, professional and ethical standards, professional appearance and poise, effective oral and written communication, positive customer relations, and positive working relationships. Of the 18 competencies that were deemed to be of

considerable importance they included; the management process of planning, organizing, leading, and controlling, and the remainders were connected with financial management, law, food sanitation and safety, room reservations, and maintenance of guest-room standards (Tas, 1988, p. 43).

When Tas (1988) and Baum (1991) determined competencies for hotel managers, their studies excluded foodservice industry practitioners and assessed the opinions of senior hotel executives only. Additionally, Tas (1988) and Baum (1991) did not study the opinions of hospitality educators or students. Drawing upon Tas' research, Okeiyi, Finley, and Postel (1994) conducted a study that involved educators and used the competencies based upon the research of Tas (1988). The goal of their study was to determine the importance ratings for food and beverage competency statements for hospitality industry practitioners, educators, and students; compare differences of opinion for these three groups and to determine the best method to teach these competencies to students (Okeiyi, Finley & Postel, 1994).

The surveys were sent to randomly select human resource directors and managers of 40 foodservice operations in 11 cities across the United States. In the first part of the survey, to target educators, questionnaires were sent to 200 colleges and universities in the United States offering 4-year baccalaureate degrees in Hospitality Management. Questionnaires and stamped return envelopes were then mailed to the program director or educator responsible for food and beverage management instruction at these institutions. The last part of the questionnaire, which was sent to educators, asked them to survey their food and beverage students.

There were 200 questionnaires mailed to educators at 10 institutions to survey students who were enrolled in food and beverage management programs. A 5-point scale ranging from 1-not important-to 5-very important was used. Of the 207 students, the majority were seniors (53%) and juniors (40%), with 62% having a grade point average of 2.51 and above. The

students had worked in a variety of foodservice positions including cooks, waiter/waitress, and management and each of them had received basic food preparation and/or quantity food preparation experience at either the university or high school level (Okeiyi, Finley & Postel, 1994).

Drawn from the competency statements from Tas's 1988 survey, respondents were asked to rate 35 competency statements on level of importance for entry-level managers of food and beverage operations. Results indicated that there was a strong agreement between the industry practitioners, hospitality educators, and students on the importance of most competencies expected for hospitality graduates entering the workforce. All three groups agreed that human relations and managerial skills were most important, while technical skills such as alcoholic beverage preparation, sales control, banquet management, menu merchandising, menu design, and table-side cooking were less important (Okeiyi, Finley, & Postel, 1994).

In Okeiyi et al.'s study the Industry Practitioner means for competency statements indicate that the five highest rated competency statements (4.40 to 4.5) were human relations, customer relations, motivation principles, leadership skills, supervision and team building. According to Sandwith's domain, the skills identified fall under the Leadership and Interpersonal domain categories as follows; positive customer relations (Leadership), Motivation principles (Leadership), and Human relations (Interpersonal) (Okeiyi, Finley, & Postel, 1994). The common thread between the three studies was that the highest mean scores were under the interpersonal and leadership competencies.

The leadership and interpersonal competencies are rated as the highest competencies in the industry, student, practitioner and European studies. This indicates that educators must consider this as an essential skill set which needs to be built into the curriculum. The results of this study are illustrated below in Table 1.

Table 1

Okeiyi, Finley & Postel's 1994 Study Comparing Educator, Industry and Student Means; The level of Importance for Entry-Level managers of Food and Beverage Operations

Competency	Educator Mean (n=30)	Industry Practitioner Mean (n=20)	Student Mean (n=22)
Human Relations	4.62	4.50	4.41
Cost Controls	4.62	3.94	4.11
Leadership Skills and Supervision	4.52	4.45	4.32
Verbal, Non-Verbal and Written Communication	4.52	4.20	4.27
Customer Relations	4.48	4.50	4.39
Professional Conduct/Ethics	4.46	4.15	4.15
Team Building	4.38	4.40	4.14
Purchasing, Storage and Inventory Control	4.37	3.78	4.24
Motivation Principles	4.31	4.50	4.26
Food Production and Sanitation	4.31	3.78	4.07

Source: Okeiyi, E. Finley, D & Postel, RT (1994), Food and Beverage Management Competencies: Educator, Industry, and Student Perspectives. Hospitality & Tourism Educator, 6(4), 37-40.

Notes: 5=very important; 4=important, 3=neither important nor unimportant, 2=slightly important, 1=not important

As indicated in Table 1, there is a strong agreement between the industry practitioners, hospitality educators, and students on the importance of most of the competencies expected for hospitality graduates entering the workforce. Specifically, all of the groups mean scores were closely aligned in the areas of human relations, leadership, customer relations, professional conduct, and communication. The only variance occurred in relation to food and beverage technical skills. The skills in this area which were rated low by industry practitioners and high

by educators and students included the food and beverage technical skills such as sales control, banquet management, and menu merchandising (Okeiyi, Finley & Postel, 1994).

In a study done by Kay and Russette (2000), of hotel management trainees, using Tas's original 1996 survey design, and Sandwith's (1993) conceptual model as a framework, three separate surveys were developed, one per functional each which addressed all five of Sandwith domains: leadership, interpersonal, conceptual-creative, administrative, and technical. The sample consisted of 56 members of the Palm Beach County Hotel and Motel Association from multiple functional areas, with varying levels of control. The sample group consisted of managers from food and beverage, front desk, and sales. Applying Tas's five point Likert-type scale, each competency statement was assessed. The study results categorized the essential competencies (EC) into the ECs common to all functional areas and management levels, the ECs common to more than one functional area or management level, and the ECs common to only one functional area and one management level (Kay & Russette, 2000).

There were a larger number of competencies identified for middle-level front-desk and sales managers than for food and beverage middle managers, indicating that entry-level Food and Beverage managers are expected to perform comparably to their middle-management counterparts. For food and beverage entry-level managers, motivating and encouraging employees, developing positive employee relations, mentoring, coaching, and counseling employees and recognizing and managing employee problems, and monitoring and involving employees were all considered essential competencies for entry level food and beverage managers, and all fell under Sandwith's leadership competency domain.

In Mayo, Thomas & Haysbert's (2005) survey study, they mailed a survey questionnaire to 175 hospitality educators and industry professionals with 60 responses returned. The major purpose of the study was to identify relevant competencies that were deemed essential as

determined by hospitality educators/professors and industry professionals. The five main competencies as determined by hospitality educators were; (a) demonstrate techniques to manage and improve revenue, (b) demonstrate financial accounting processes, (c) exercise listening skills/communication skills (including oral and written skills), (d) demonstrate how to manage subordinates by developing training programs, using performance appraisals; know how to manage change, and (e) demonstrate how to motivate people. The top five competencies for the industry professionals were good listening skills, financial accounting, ability to manage subordinates and motivate others, revenue management, demonstrating a passion for service, the ability to manage food and beverage operations, the ability to plan and conduct meetings, and knowledge of legal issues.

The study indicated that the educators and industry professionals were in agreement on the majority of the core competencies. Specifically, educators and industry professionals believed that revenue management, financial accounting processes, good listening and communication skills, and the ability to lead and manage subordinates through motivation and training were essential competencies for entry-level managers.

The importance of general management knowledge and skills was identified in the study conducted by Ashely, Bach, Chesser & Ellis (1995) and Breiter and Clements (1996). They stated that people skills, leadership, service orientation, oral communication, listening skills, teamwork, employee relations, problem identification and problem solving, adapting to change, creative thinking ability, employee training and development, written communication, quality management, individual and system wide computer skills, and financial skills are important competencies that should be cultivated by the hospitality management curricula for the 21st century (Breiter & Clements, 1995).

In a study of hotel and restaurant educators by Mayo and Murphy (1992), leadership development was ranked as the most essential skill needed by hospitality and tourism management program graduates. Hsu, Gilmore, and Walsh (1992) stated that the essential competencies to prepare graduates for a successful career in the hospitality industry included customer satisfaction, supervision of personnel, communication skills, ethical and professional standards in work, decision-making, and positive working relationships. In a 1995 study by Ashley et al., the faculty of the hospitality-management program at the University of Central Florida, located in Orlando, invited 25 leading executives in the hospitality and tourism industry to be on an advisory committee. The executives participated in brainstorming sessions to help identify the competencies that would be critical for the baccalaureate-level employees that they expected to be hiring in the year 2000 (Ashley et al., 1995).

a) The feedback from the executives, using an electronic group-decision making software program was used and generated a list of 83 separate items that were then grouped into 10 categories. The categories included; (a) people skills, (b) creative-thinking ability, (c) financial skills, (d) communication skills (for both written and oral presentations), (e) developing a service orientation, (f) total quality management, (g) problem-identification and problem-solving skills, (h) listening skills, (i) customer-feedback skills, and (j) individual and system-wide computer skills (Ashely & al, 1995, p. 77). For the University of Central Florida, this was the first step in their curriculum review process. As a result of this review process and the specific industry feedback, UCF Hospitality Management faculty developed a six-course core curriculum with three elective courses. The core courses developed included the courses identified by the advisory board which were not covered in sufficient depth in either the Hospitality and/or business core requirements (Ashely et. al., 1995, p. 78).

This process revealed a shift in the educational paradigm involving hospitality-management programs. The traditional focus of hospitality education is being challenged by the rapidly changing needs of the hospitality industry for more general managerial skills and interpersonal competencies. The hospitality industry has suffered over the years with a diffused identify. From the introduction of the hospitality management programs, there has been a disconnect between educators and industry, perhaps due to the emerging fields fight to establish an appropriate balance between a general versus specialized education.

In an early study by James Bergermeister, (1980) a survey was done of University of Wisconsin-Stout Hotel and Restaurant Management graduates and a sample of members of Council on Hotel, Restaurant, and Institutional Education. Using the earlier study of competencies which had been given to administrative dietitians for commercial foodservice managers, Bergermeister modified the statements to address the needs of the hospitality industry. New statements were developed to address the areas of food and beverage control and the lodging side of hospitality. A survey questionnaire was sent to a random sample of 150 University of Wisconsin-Stout Hotel and Restaurant Management graduates and a random sample of 150 members from the Council on Hotel, restaurant, and Institutional Education (CHRIE). A total of 80 questionnaires were returned equating to a return rate of approximately 30% .

On a scale of 1 to 5, the questionnaire asked each participant to rate the factors. Similar to Tas's (1983) essential competencies, Bergermeister rated numeric values of 4.0 and above as essential for the beginning manager. For competencies with the highest rating for general statements the items deemed as essential for the beginning manager included; treating customer satisfaction as a top priority, maintaining effective communication with personnel, motivation and training of personnel, and realizing profit is an important goal (Bergermeister, 1980).

For the Foodservice and Restaurant related statements, the essential competencies for the beginning manager include possessing skills to effectively supervise personnel in food production and serving areas. In the Foodservice and Restaurant area, the skills deemed as highly desirable for the beginning manager included understanding that standardized recipes are used to provide a consistent basis for quality and quantity control, having technical skills in food and beverage production management (cooking, bartending, dishwashing service) implementing standard food, beverage, and labor control procedures and possessing technical skills in receiving, storage and issuing of food and beverage (Bergermeister, 1980).

In an early study completed in 1980, Mariampolski, Spears & Vaden studied the competencies that the Restaurant Manager needs to know by applying an instrument that was initially developed to establish competencies for administrative dietitians. The study consisted of 62 competency statements for commercial food-service managers, with about a third of the statements related specifically to commercial food-service management, while the remainders were applicable to the management of any quantity food-service concerns (Mariampolski,et al., 1980). The authors felt that experienced professionals in restaurant management were qualified to comment on the competencies needed by entry-level restaurant managers. The survey group consisted of three groups: officers, past presidents, and other directors of the National Restaurant Association; restaurateurs who belonged to the NRA; and participants at an NRA purchasing seminar. Of the 203 questionnaires distributed, 89 were returned, for a 44% response rate (Mariampolski, et al., 1980).

Most of the technical skills considered essential by the respondents concerned food production and purchasing such as proper and safe operation of equipment, supervision of food items produced and served, technical skills in the management of food and beverage production, use of daily production schedules, use of standardized recipes, supervision of receiving, storage,

and sanitation procedures, use of appropriate purchasing techniques, and coordination of purchasing and service (Mariampolski, et al., 1980).

Technical skills considered desirable but not essential included the development of master schedules for personnel, consideration of resources in menu planning, determination of staffing requirements, implementation of procedures for food and beverage control, maintenance of accurate records, implementation of new methods, and implementation of changes in methods and procedures (Mariampolski, 1980).

The human skills considered essential pertained to staffing and employee relations and included personnel training, orientation of new personnel, personnel selection, and effective communication with personnel, employee motivation and evaluation of employee performance. The conceptual skills considered essential by the respondents included: coordinates labor, equipment, and personnel within area, ranks customer satisfaction as a high priority, and realizes that profit is an important goal (Mariampolski et al., 1980).

Overall most technical and human skills were rated as either essential or desirable for the beginning commercial food-service manager. Most of the competencies considered beyond the responsibility of the beginning manager reflected conceptual skills in the area of financial analysis, labor, staffing, merchandising techniques, menu analysis, and operational policies and procedures. The study also suggested that using simulations and/or coordinated work experience would help students to develop technical and human skills. The study indicated that conceptual skills were beyond the responsibility of the beginning commercial food-service manager, and that conceptual skills for the entry level food-service manager would most likely be less important than technical and human skills in the hospitality curriculum (Mariampolski et al., 1980).

In a study done by Knutson and Patton (1992), the researchers focused on the following; (a) identifying which management skills hospitality students believe are important for success in their careers; (b) evaluating how prepared these students feel they are in each of these skill areas; and (c) measuring any differences between the two. A sample of 215 junior and senior-level students (the researcher did not specify the percentage of each class) enrolled at Michigan State University's School of Hotel, Restaurant and Institutional Management during spring term 1990 were given self-administered questionnaires to complete in their classes. The students were given a Likert-type scale to measure how important (5=Very; 1=Not At All) students think each of the 15 skills will be to their career success in the hospitality industry. Using a parallel scale, the students then indicated how prepared (5=Very; 1=Not At All) they feel they are in each area.

TABLE 2

KNUTSON AND PATTON STUDY – STUDENT'S PERCEPTION OF CRITICAL SKILLS AND LEVEL OF PREPAREDNESS

Competencies	Very Important %	Mean	% Gap	Well Prepared %	Mean
Total Indices	80.0	4.3	59.9	20.1	3.6
Manage Employees	99.5	4.7	50.9	48.6	3.4
Long Term Focus	87.0	4.3	42.2	48.8	3.5
Public Speaking	95.8	4.6	40.8	50.0	3.5
Get Feedback	93.1	4.5	29.1	64	3.8
Selling	80.9	4.2	35.6	45.3	3.4
Taking a Hit	92.5	4.5	32.2	60.3	3.7
Computer Skills	75.6	4.1	28.6	47.2	3.4
Food Service Production	59.2	3.6	26.0	33.2	3.1

Findings from the Knutson and Patton study indicated that students placed guest interaction and managing employees as "critical skills." The students placed significant value on guest interaction in making their hospitality careers successful. Fortunately, the students felt more skilled in this area than in any of the others measured. More than 4 out of every 5 students believed that they were well prepared to interact with guests. As indicated in Table 2, students did not feel adequately prepared for managing employees and believed that this was an area where they needed additional support from their faculty in learning to be successful hospitality managers. All of the students agreed that they must be able to competently manage employees in order to succeed professionally, but less than half of them think they are capable of doing so. The gap of 50.9% was the largest gap between any set of variable scores (Knutson & Patton, 1992).

Students in the survey also recognized the need to effectively communicate with others by being proficient in public speaking as well as dealing with their supervisors, managers, mentors, bosses, and owners in a politically positive way. Their greatest requirements were in strengthening their abilities to manage employees well, to focus on the long-term, and to comfortably speak in public (Knutson & Patton, 1992).

The skills mirror the competencies deemed essential by the students in the proceeding (Okeiyi et al., 1994) study and the Bergermeister (1983) study indicating that students identified the skills of human relations and leadership, customer relations, and communications as the higher-rated essential competencies.

Perceptions of International Hospitality Managers

Chung (1999) conducted a study to determine what Korean alumni of hospitality management programs considered as the factors needed for success in the industry. The findings

indicated that competencies covering directing and supervising the work of others, enhancing socialization and interpersonal relationship with employees, selecting and assigning personnel, taking a chance of more job enlargement, and maintaining professional appearance and poise were the most influential competencies attributed to career success.

Wilson, Murray, and Black (2000) investigated essential competencies of a Northern Ireland catering company. The study divided competencies into marketing, financial, human resources, operative and production, and general management activities. Respondents were asked how frequently they carried out specific contract catering activities-often, sometimes, never. Respondents were then asked to rate the importance of these items on a scale of 1 to 4, from "not important" to "very important" The data was collected by means of a mailed survey to 136 of 157 company catering managers, representing 86.6% of the contract catering companies in Northern Ireland. A total of 56 questionnaires were returned which gave a response rate of 41.2%.

Competencies which had a mean of 3.80 or above were classified as essential competencies. The survey contained 15 competencies which were classified as essential. Since a catering company must adhere to stringent food handling processes, it was not surprising that the two operation and production competencies (health and safety and food hygiene) were rated first and second by contract catering managers. Financial qualities considered essential competencies included controlling food and labor costs and maintaining budgets which are indicative of the need for managing costs within a contract catering company. Also included in the top five competencies were (3) handling problems, (4) controlling food costs (financial), and (5) developing good staff/customer relations (Wilson, Murray & Black, 2000).

Since the survey only analyzes one contract company in Ireland, the results may not be representative of other international contract catering companies. Also, as noted by the

researchers, the sample size (n = 56) was extremely small which could be argued that is not a valuable or meaningful study for research purposes (Wilson, Murray & Black, 2000).

Christou (2002) used the same competencies of Tas (1998) and Baum (1990) to survey hospitality graduates and managers of Greek hotels. The research covered all five-star properties regardless of their size and all four-star hotels with 200 rooms or more. This totaled a population size of 178 establishments. The research instrument was in the form of a checklist, accompanied by an explanatory letter, which was mailed to the general managers. They were asked to rate each competency statement by using five points for essential competencies, four points for important, and three points for competencies of moderate importance, two points for little importance, and one point for unimportant. According to Tas (1988) the competency responses can be categorized as essential, when the mean rating is over 4.50, of considerable importance when it is between 3.50 and 4.49 and, moderately important when between 2.50 and 3.49.

Although this study was completed 6 years after Tas (1983) and Baum's (1990) study, the results are similar. The General Managers rated "soft skills" as most essential, indicating that the competencies representing interpersonal and human relations were the most essential. The US, UK, and Greece also agreed to what is the most essential competency for trainees; the ability to manage guest problems with understanding and sensitivity. In conclusion, it appears that the US, UK, Greece, and Ireland believe that the most important competencies are for managers to be effective leaders, who communicate successfully and are adept at managing both guest issues and employee issues in a professional manner. In addition, the General Managers also believe that the entry-level manager's ability to identify operational issues and then effectively motivate employees to achieve desired performance are key qualities for rising managers. The only significant difference in the study in Ireland was the focus on food hygiene,

sanitation, and food and labor costs which makes sense given the additional operational objectives of managing a food service operation.

Kriegl (2000) asked international hospitality managers to determine the most important competency for international managers. A total of 100 surveys were distributed resulting in only 51 usable surveys. All participants were graduates of the Cornell hotel school. This could bias their opinions since their academic experiences were similar. Sample groups were selected from continents rather than from individual countries or cultures thereby potentially limiting country and culture-specific perspectives from the final analysis. Approximately one-third of the respondents were members of multicultural families. Due to the respondents' socio-cultural backgrounds, there is a possibility that they had more of a global perspective than that of members of traditional single-culture families (Kriegl, 2000).

However, despite the small sample size and demographic issues, the results were significant indicating that cultural sensitivity was the most important competency for international managers. According to Kriegl (2000) effective interpersonal skills and cultural sensitivity help managers adapt to people from different cultures. Managerial flexibility and adaptive leadership were also rated highly indicating that being open to new ideas and having the ability to overcome differences is a desirable attribute for anybody relocating abroad. The survey results indicated that functional and technical skills received the lowest ratings in the competency study. This could most likely be attributed to the fact that when working abroad, interpersonal skills and the ability to understand the host-country culture is imperative for success when working in the international hospitality management arena (Kriegl, 2000).

Baum (1990) in a study of United Kingdom hotels discovered that the interpersonal competencies of handling guest problems, communication, and demonstrating professional appearance were essential to hospitality managers. In another study, in the UK, Baum (1991)

replicated Tas's earlier (1983) study which analyzed the specific competencies required of college graduates entering management training programs in the United States hotel industry as identified and rated by the general managers of large hotels. The data was collected by means of a mailed checklist, sent to the general managers of all hotels in the UK with 150 or more bedrooms. The same 36 items were used (with some minor working modification) and presented in the same order, which had been used by Tas (1983). The respondents were asked to rate each item, representing a competency statement, on a scale from "unimportant" to "essential", using a 1-5 numerical code. Of the 223 questionnaires mailed out, 118 were returned, representing a 53 per cent response rate (Baum, 1991).

Table 3 illustrates the results of the study of general managers in Greece, the UK, and the US in regard to their ranking of competency statements pertaining to managing guest problems, professionalism, customer and employee relations, and communication.

TABLE 3

COMPETENCY RANKING COMPARISON- GREECE, UK AND THE US

Competencies	Rank Order Greece	Christou Study Greece Mean	Rank UK	Baum Study UK Mean	Rank USA	Tas Study USA Mean
Manages guest problems with understanding and sensitivity	1	4.89	1	4.81	1	4.80
Demonstrates professional appearance and poise	2	4.83	5	4.56	3	4.61
Develops positive customer relations	3	4.72	6	4.55	5	4.60
Strives to achieve positive working relationships with employees	4	4.63	4	4.57	6	4.52
Possesses needed leadership qualities to achieve organizational objectives	5	4.60	9	4.40	7	4.48
Maintain professional and ethical standards in the work environment	6	4.58	9	4.40	2	4.69
Motivates employees to achieve desired performance	7	4.58	8	4.52	8	4.44
Identifies operational problems	8	4.54	13	4.24	12	4.00
Communicates effectively both orally and written	9	4.52	3	4.61	3	4.61

Scale: 1=unimportant competency 5=essential competency

The results of this study indicated that the responses of the United States and United Kingdom General Managers agreed on 8 of the 10 highest-rated competencies, and also on the 10 lowest-rated competencies. The competencies rated similarly included the competencies related to guests and staff. In relation to the lower-priority factors, the items ranked similarly were technical, financial, and business-planning competencies. However, differences were

found between the United States and the United Kingdom in legal and regulatory concerns which could be due to cultural differences. American managers also placed a greater significance on professional and ethical standards than the United Kingdom General Managers (Baum, 1991). Table 3 illustrates the similarities in the core competencies between the United States, United Kingdom and Greece.

Although Baum (1991) suggested that the similarities between the countries could potentially result in a transferable core curriculum for degree-equivalent hotel management programs, his study is limited in that it may not truly represent the perceptions of the international hospitality industry mainly because it only concentrated on one country. Additionally, the study is lacking the specifics relating to the cultural and legal regulatory issues which had an appreciable impact on the competencies identified in the study.

Critique of Research Methods

Taken together, these studies give a comprehensive view of competencies of entry level hotel and food and beverage managers, the majority of research is dated and the sample sizes were small. Also, many of the research studies were based on convenience samples versus random or stratified sampling which may have been more valuable. The work at the University of Central Florida was significant as the integration of key executives in the industry provided for the development of a practical curriculum endorsed by industry veterans. Although other universities may be using this type of approach, this was not documented in the literature. Also, the sample size used at UCF was the feedback of only 25 executives. Furthermore, there were no specifics given as to the types of hotels, their market position and/or their chain affiliations.

Scholarly Research is Essential

It is important that new research initiatives be undertaken that targets culinary competencies necessary for entry-level managers. The most critical piece to this research is to synchronize feedback from industry practitioners specifically in the food-service industry. As indicated in the literature review, there has been a shift from a faculty-based curriculum to an industry focused curriculum. Hospitality programs have suffered for years with a diffused and confused identity. The gap is slowly lessening, and most programs have realized that the key to sustainability is integrating industry feedback into the curriculum.

With the growth of culinary programs and the rise from a craft to a profession, it is imperative that culinary arts programs solicit industry feedback to identify core competencies for curriculum development. Although the American Chef Federation has identified needed competencies for various levels of certification which may equate with culinary higher education coursework, research from the industry is non-existent. Thus, the goal of this study is to fill a significant gap in scholarly research which identifies competencies deemed essential by industry practitioners and educators.

The Competency Model and Proposed Survey Research

Surveying industry practitioners and educators based on Okeiyi's (1994) and Tas's (1983) competencies using Sandwith's (1993) theoretical framework, will provide the foundation for building the knowledge base for the core curriculum. By integrating Sandwith's framework with the technical, hands-on culinary competencies, this study will identify the necessary management and culinary skills needed for success in an entry-level culinary management position.

The competency studies were predominantly generated from Cornell University. This could also present a bias in the results. It is questionable as to why other universities have not

taken the initiative and/or pursued grants to further their knowledge base of industry expectations of hospitality/culinary graduates.

As indicated in the literature review, there is a dearth of scholarly research focusing on culinary arts manager trainee competencies, and the only competency studies that were identified were hotel and food-service related. The majority of the competency studies analyzed integrated Katz's competency domain model, a theory that effective administration rests on three developable skills-technical, human, and conceptual skills. A common thread identified in the literature review of the competency studies completed within the last 20 years is the strong agreement between industry practitioners and hospitality educators that the most important competencies expected for hospitality students are the areas of interpersonal and human-relation skills and leadership.

Although the research focusing on hospitality manager trainee competencies does provide a valuable base for comparative purposes, it is imperative that the curriculum of emerging programs in the culinary arts meet the demands of academia and industry. A curriculum based on this type of integration necessitates ongoing communication between educators and industry, which is a critical component to the design of a curriculum which appropriately prepares students for entry-level managerial positions in the culinary industry. It is imperative that academia bridge the gap through a sound curriculum base which connects industry and educator needs.

Summary

This study was based on an earlier competency study done in 1983 by Dr. Richard Tas who studied the competency skill-set necessary for hotel manager trainees. The researcher obtained permission to incorporate his work and use his survey instrument as a foundation for identifying the competencies needed for entry-level culinary arts manager trainees. Since competency studies focusing specifically on the culinary arts are limited, the literature review

draws on competency studies done in the last three decades with a focus on the hospitality industry. The decision to use hospitality-related studies was based on; its relevance due to its similarities as an emerging field, its placement with the Culinary Arts as a dual degree, and its rise from a craft to a profession.

The literature review explored Tas' (1983) work and also other food and beverage related studies completed between 1980 and 2000. Specifically, this literature review focused predominantly on competency studies specific to entry-level hotel departmental positions, food-service related competency studies including restaurants, food service and catering, and international hospitality and food-service related competency studies.

The theoretical framework guiding this study was based on the competency domain model developed initially by Robert Katz in 1955, and then enhanced by Paul Sandwith in 1993. This expanded model included five areas, or domains, of managerial competency which includes; conceptual-creative (the cognitive skills needed for the job), Leadership (the ability to turn ideas into productive action), Interpersonal (skills for effective interaction with others); Administrative (personnel and financial management of the business); and Technical (the knowledge and skills essential to producing the product or service) (Tas, LaBrecque, & Clayton, 1996, p. 91).

The majority of the competency studies analyzed integrated Katz's competency domain model and a commonality between the studies completed within the last three decades is the strong agreement between industry practitioners and hospitality educators that the most important competencies expected for hospitality students are in the areas of interpersonal and human-relation skills and leadership. The United States and international studies confirmed that the most essential competencies for trainees are: the ability to manage guest problems with understanding and sensitivity, professional appearance and poise, positive customer relations and

employee relations, effective oral and written communication skills and effective leadership qualities to achieve organizational objectives.

The food-service related competency studies indicated that most of the technical skills considered essential by respondents concerned food hygiene and sanitation, food production and cited purchasing and the proper and safe operation of equipment as essential skills. Food-service related studies also suggested that using simulations and/or coordinated work experience would help students to develop technical and human skills (Mariampolski et al., 1980).

In Chapter III, the proposed study, which utilizes a quantitative analysis and a curriculum assessment integrating Katz's competency based theoretical framework, will be discussed. This chapter will be followed by descriptive statistics to be used to help provide a rationale for recommending the core competencies needed in a bachelor's degree program that would appropriately prepare students for an entry-level culinary arts manager trainee position in the culinary industry.

Chapter III

Methodology

This chapter discusses the methodology and procedures that were used to identify the core competencies needed in a bachelor's degree program that would appropriately prepare students for an entry-level culinary arts manager trainee position in the culinary industry. A quantitative analysis and curriculum assessment were done in this study.

The first part of the study, the quantitative section, involves a statistical analysis of an online survey distributed to culinary practitioners and educators to rank their perception of the importance of culinary manager trainee competencies. The second part of the study contains a curriculum assessment of the five highly-ranked culinary arts programs in the United States, the processes and criteria applied for determining the top-ranked culinary arts programs, identification of the management core curricula embedded within the curriculum of each culinary school, and the rationale for the placement of the specialization courses to the theoretical framework based on the researcher's program evaluations and discussions with the deans and/or curriculum specialists at each of the culinary schools.

This chapter includes a discussion of the conceptual model, the research questions addressed, the population examined and sampling method, the data collection strategies, and the statistical analysis that were employed in this study.

Conceptual Model

The conceptual model and the foundation of this study is based on an integration of an earlier competency study completed by Dr. Richard Tas, (1983) the theoretical framework of Katz (1955) and Sandwith (1993), consultations with a consulting team, and was guided by the core competencies deemed essential by the American Chef Federation (ACF) for industry certification of Certified Executive Chef (ACF, 2009). This model can be found in Appendix C.

Research Questions

The research questions this study addressed were: (a) What do culinary industry practitioners and educators believe are the most important core competencies that should be integrated into a 4-year Bachelor's degree program in the Culinary Arts to help students learn the appropriate technical and professional skills necessary for success in the field? (b) Do industry practitioners and culinary educators (Beard foundation professional members and ICHRIE members) differ in the recommended core competencies necessary for a bachelor's degree in the Culinary Arts? (c) To what extent are competencies deemed essential by industry professionals and educators embedded within the courses required by highly-ranked Bachelor's degree programs in the culinary arts? The overarching research question that guides this study is: What are the recommended core courses for a 4-year bachelor's degree program in the Culinary Arts which includes the competencies suggested by industry practitioners and culinary educators and which mirror the existing core competencies in the five highly-ranked bachelor's degree programs in the Culinary Arts?

Population and Sampling Method

The population for this study includes all culinary arts educators, practitioners, owners and all hospitality educators. Since sampling this entire population was not feasible, a sampling frame was chosen, which was the professional membership directory lists of the active members of the James Beard Foundation (JBF-culinary arts practitioners) and the International Council of Hotel, Institutional and Restaurant Educators International (ICHRIE-hospitality educators). With random selection or random sampling, each individual has an equal probability of being selected from the population, ensuring that the sample will be representative of the population (Keppel, 1991).

James Beard members were selected for this study since the members of this organization are professional, established, and successful culinarians who are chefs and chef/owners. Members in this organization are typically at the Executive Chef/Director/Owner level which would put them in the position of determining and/or hiring potential entry-level culinary managers for their organizations.

Educators affiliated with ICHRIE are hospitality and tourism educators from universities offering programs in hotel and restaurant management, foodservice management, and the culinary arts. CHRIE was founded in 1946 and its mission statement states that. ICHRIE is a nonprofit professional association which provides programs and services to continually improve the quality of global education, research, service, and business operations in the hospitality and tourism industry (ICHRIE, 2006, p. 3).

The James Beard foundation is dedicated to the memory of James Beard, an author, teacher and mentor to thousands of professional chefs and food enthusiasts. The James Beard Foundation (JBF-www.jamesbeard.org) maintains his house as a showcase for professional celebrity chefs, food connoisseurs, and for fund-raising events. The JBF's primary mission is to administer programs which support the culinary arts such as educational initiatives, food industry awards, scholarships to culinary schools, and to support charitable organizations.

There are approximately 1,700 members of JBF located predominantly in the United States and Europe. The different groups that comprise membership includes; Chefs and Chef Owners, Authors, Editors, Journalists, Spirits and Hotel and Restaurant Related Professionals, Educators, and miscellaneous. The targeted group for this survey from the JBF membership directory was culinary educators, chef practitioners, and chef owners located in the United States and Europe. Since the research questions focused on the competencies deemed critical for success in the culinary industry, this is the subset of the foundation that would possess the

professional knowledge base to successfully determine the appropriate knowledge base and skill-set. The sample set for the study includes the subpopulation which includes Chefs and Chef Owners (847), and Educators (35).

There are currently 1,350 members of CHRIE located in the United States and Europe. The different groups that comprise membership includes: Individual memberships for educators at secondary schools (High Schools), Individual membership and institutional memberships for educators at institutions granting baccalaureate and graduate degrees, Individual memberships for retired educators, Individual memberships for full-time graduate students, Individual memberships for industry professionals, associations, business, or government executives, and Individual and Institutional Members for educators affiliated with institutions granting associate degrees and diplomas.

The sample set for this study includes the sub-sample of Individual educators (417), and Individual Educators affiliated with an Institution (133), which grants baccalaureate and graduate degrees, Retired educators (15), and Individual Educators, (63) and Individual Educators affiliated with an Institution (113) which grants associate degrees, certificates and diplomas. All 741 active members will be asked to participate in the study. The sample set of the JBF members (882) combined with the sample set of the CHRIE members (741) results in the total sample of 1623 participants in this study.

Limitations

The JBF foundation is only one professional association affiliated with the culinary arts and its sample size of Chefs, Chef Owners and Chef educators is limited. The demographics of the JBF foundation, which includes celebrity culinary members such as Emerill LaGasse and Bobby Flay, has demographic and psychographics which may not be representative of the culinary arts professional population. The American Chef Federation (ACF) has been more

actively involved in drafting the course for culinary arts education by designing accreditation and certification programs to enhance professionalism of the culinary arts. One could argue that in order to obtain a sample which is representative of the culinary arts population, ACF professionals need to be included in the survey.

Data Collection

The data collected from the survey includes demographic information including a respondent's number of years in the hospitality and/or culinary arts industry, specific position in his/her field (i.e. – educator at 2 year associate degree program/4 year bachelor degree program/graduate program) or culinary arts practitioner (chef or chef/owner), highest level of education, respondent's age, and current residential location. The demographic information is followed by a list of job competencies which the respondent was asked to rate on the basis of its importance for entry-level culinary manager trainees. The respondent was asked to rate the degree of importance based on the following; 1=essential; extreme importance; 2=considerable importance; above average; 3=moderate importance; average importance; 4=limited importance; less-than-average importance; 5=no importance.

The data collection strategies considered for this study included mail, web-based surveys and the Delphi method. The Delphi method was considered in the event that the data from the survey results was inconclusive. Since there was consensus between the educators and practitioners, it was determined that it was not necessary to perform the Delphi study since for purposes of this study, all of the professional members of JBF and CHRIE used for this study were identified as experts.

A comparison of mail, fax, and web-based surveys, indicated that the web-based surveys yielded the highest response rate (44.21%) compared to mail (26.27%) and fax (17%) (Cobanoglu, 2001). Based on these results, Cobanoglu (2001) believed that to ensure the

maximum response rate, the preferred method for distributing surveys was through the web-based survey method. The data collection strategies utilized in this study were based on Dillman's theory of Survey Response as Social Exchange (Dillman, 2000).

According to Dillman (2000), the three elements that are critical for predicting a particular action include rewards, costs, and trust. Thibaut and Kelley (1959) have noted that being regarded positively by another person has reward value to many people. Dillman's (2000) theory regarding ways of providing rewards is to show positive regard for the respondent. Dillman believes that giving respondent's reasons that a survey is being done, providing a number to call with questions, and addressing correspondence are small, but not inconsequential ways of showing positive regard to questionnaire recipients (Dillman, 2000).

Both Blau (1964) and Homans (1961) pointed out that the feeling of being asked for help, advice, or assistance provides a sense of reward to people. Depending upon the survey population, sponsorship, and topic, one can often appeal to values shared widely by those who are surveyed. Blau (1964) noted that supporting a person's values can instill a sense of reward in individuals. This principle underlies efforts to appeal to respondents on the basis of a study's "social usefulness" (Dillman, 1978, Empey, Slocum, and Swanson, 1956). Dillman (2000) believes that a tangible incentive, even a token one, is effective because it evokes a sense of reciprocal obligation which can be easily discharged. Finally, Dillman (2000) recommends using deadline dates for returning a questionnaire and completing an interview.

Dillman (2000) discusses strategies for reducing social costs which include avoiding subordinating language, avoiding embarrassing questions, avoiding inconvenience, making questionnaires appear short and easy, and minimizing requests to obtain personal information. According to Dillman, establishing trust may be accomplished in several ways including

providing a small token of appreciation in advance, or sponsorship by a legitimate authority, trust that something useful will happen and invoking other exchange relationships. (Dillman, 2000)

ICHRIE and JBF do not sell email addresses. Due to the researcher's status as an active member in ICHRIE, the Vice President of CHRIE offered to provide a broadcast email with the survey to the sample. Although this is not standard protocol, since the association works to protect the privacy of the members, the Executive Board perceived that the survey could potentially positively impact education specific to the educational goals of the association. For this reason, he felt that the members would welcome the opportunity to be included in the project.

As an active member of JBF, members have access to the entire professional directory. A master email list does not exist. Individuals that want access to these professionals can only get it by being an active member. Since it is not possible to do a broadcast email at JBF, the only way to build the list is to identify the members in the sample group and then individually build a personal email database. This is a laborious process, and, according to the Educational Director, surveys to the membership database are rarely if ever completed.

The data collection strategies utilized in this study are based on Dillman's (2000) theory of Survey Response as Social Exchange and this strategy is integrated into this study in the following manner. Once approval from the IRB was secured, the researcher confirmed the tentative dates for the broadcast message through ICRHIE and the email message for the James Beard Members. The researcher contacted the educational Directors of both organizations and prepared a letter that was distributed and alerted the members (a) to the purpose of the research, (b) the time to take the questionnaire would be short and would take approximately 5 minutes, (c) that their insights as experts in the field was being requested (d) that the educational

foundation supports the research, and (e) that a special incentive (a summary of research findings) would be provided if requested.

The CHRIE members were sent personalized messages, although part of a broadcast email, this did not reveal multiple recipient addresses. For members of the James Beard Foundation, all sampled individuals received an individual email message. Since individual messages are more likely to get a response than emailing multiple addresses, this was accomplished by using the copy and paste procedure.

The web-based survey method was selected for this study after careful consideration of the advantages and disadvantages of this method including: constructing web questionnaires may increase the risks of survey error due to varying levels of technical sophistication, differing computer operating systems which may contain various browsers, and other weaknesses including sample demographic limitations, lower levels of confidentiality, and the potential for technical problems due to hardware and software issues.

Despite these limitations, the electronic survey was chosen for this study due to accessibility, time, and costs. To further support the web-based survey method, and at the suggestion of the Vice President of ICHRIE, the researcher spoke with a faculty member from another university who completed a web-based survey through ICHRIE. Based on this discussion it was learned that in this research the response rate was 50%. It appears that performing a web-based survey as an ICHRIE member positively impacts the response rate. Incorporating Dillman's strategies combined with a method which has proven successful was incentive to proceed with the web-based survey method.

Several options were considered to develop the online survey. Seton Hall's Academic Survey System & Evaluation Tool (ASSET) was considered, along with Zoomerang, EZSurvey, SuperSurvey, and Survey Monkey. ASSET was not used since it was learned that surveys must

be completed in one time period. If a member was completing the survey and then later pulled away, all of the information would be lost without an option to return back to the questionnaire to complete the information. Based on a comparison of the online survey software in regards to features, pricing, and service, SurveyMonkey was chosen as the online survey software due to its ability to provide unlimited surveys, low monthly cost, free email support, and the fact that the survey is housed on the company server resulting in the researcher not having to incur the cost of purchasing the software (Wright, 2005).

Upon approval of the proposal by the Institutional Review Board of Seton Hall (IRB), the pilot study was completed the week of November 20, 2009. According to Babbie (1990), a pilot study should be directed at a representative sample of the target population, and it should contain all the intended questions in the wording, format, and sequence as nearly identical as possible to the final survey instrument. The pilot study was given to full-time faculty of a 4-year university (Educators) and the full-time and adjunct faculty of a culinary arts program (Educators and Practitioners). The survey did not need to be modified as the feedback given by the respondents was extremely positive. It was then sent to the dissertation committee for final approval. The date for survey implementation for ICHRIE members was December 15, 2009, and the JBF survey implementation date was January 6, 2010.

The URL address to the Survey Monkey website was embedded within the text of the email. Members of the sample were asked to complete the survey and then to submit their responses online. When the survey period ended, the data was imported into PASW (version 17).

Instrumentation

The literature review uncovered an earlier competency study completed by Dr. Richard Tas (1983) which focused on Competencies Important for Hotel Manager Trainees. Upon

receiving permission from Dr. Tas to use his survey instrument as a foundation, the competency model was enhanced to include the culinary arts competency component.

Tas's survey instrument, which contained 36 competency statements was enhanced in the following manner: Incorporating Katz (1955) and Sandwith's (1993) conceptual framework, five domains of competency were added which included interpersonal, conceptual, administrative, leadership, and technical domains. Initially, the researcher obtained the detail of core competencies created by the American Culinary Federation (ACF) for an individual to obtain the status of Certified Executive Chef (CEC). This was used as a foundation for building the conceptual model since this represents the managerial skill-sets needed by culinarians who are aspiring to achieve industry certification. To create the new conceptual model which integrated the culinary arts components, the researcher reviewed the conceptual model with industry colleagues (the consulting team) which included; two Executive Directors/Deans of a Culinary Program, two Executive Directors/Deans of a Hospitality Management Program, two food and beverage faculty members, and two veteran chefs who graduated with bachelor's degree in the Culinary Arts. All members of the consulting team had a minimum of 25 years of industry experience.

Based on feedback from the consulting team and the researcher's experience in the industry, the changes from the initial conceptual model included; separation of the conceptual competencies into the five domains of competency based on Katz (1955) and Sandwich's (1993) conceptual model to include Conceptual, Leadership, Interpersonal, Administrative, and Technical skills; minor changes in the wording of the competency items to reflect changes in some industry specific terminology; addition of culinary competencies; and enhancement of the conceptual and leadership categories to reflect the enhancement of managerial competencies

based on demographic shifts and the additional responsibilities of managers in the twenty-first century.

To mirror Tas's (1983) earlier work, a 5-point rating scale was used to rate the degree of importance for each competency. Tas's original rating scale 5=essential; extreme importance; 4= considerable importance; above average; 3=moderate importance; average importance; 2=limited importance; less-than-average importance; 1=no importance (Long, 1977). For this survey, 1=essential; extreme importance; 2=considerable importance; above average; 3-moderate importance; average importance; 4= limited importance; less-than-average importance; 5=no importance.

The initial survey instrument created by Dr. Richard Tas in 1983 and the researcher's revised survey instrument created for this study can be found in Appendix A and Appendix B respectively.

The resultant new, proposed conceptual model for culinary manager trainees can be found in Appendix C.

The five domains of managerial competency include the Conceptual domain, the Leadership domain, the Interpersonal domain, the Administrative domain, and the Technical domain. The definitions of each domain and examples of the types of competencies included within each domain are detailed below.

Conceptual domain

Conceptual domain was defined as the cognitive skills needed for the job and includes items such as assisting in the development and execution of business and marketing plans, and assisting in operational and strategic planning and budgeting.

Leadership domain. Leadership domain was defined as the ability to turn ideas into productive action and includes items such as developing positive employee relations, understanding the leadership role, and creating a vision with team members.

Interpersonal domain. Interpersonal domain was defined as possessing the skills needed for effective interaction with others and includes items such as ability to communicate effectively, ability to manage guest problems, and the ability to demonstrate professionalism and employ ethical standards in the work environment. Other pertinent items included compliance with HACCP and Servsafe.

Administrative domain. Administrative domain was defined as personnel and financial management of the business and includes items such as the ability to understand the human resource function, the ability to analyze financial and statistical reports for decision making purposes, and the ability to balance the administrative functions with operational requirements.

Technical domain. Technical domain was defined as having the knowledge and skills essential to producing the product or service and includes items such as possessing the technical skills set in all kitchen areas including a basic knowledge of equipment functioning and maintenance and practicing effective menu management including balancing the menu in relation to the physical layout of the kitchen (Tas, LaBrecque & Clayton, 1996, p. 91).

Reliability

Reliability refers to the ability to obtain similar results by measuring an object, trait, or construct with independent but comparable measures (Churchill, 2001). To measure internal consistency, Cronbach's (1951) alpha statistic will be used. According to Babbie (1990), an alpha of .70 or greater indicates acceptable internal consistency. Although Tas (1983) used the Spearman-Brown Prophecy Formula to determine the reliability of the research instrument,

Cronbach's (1951) alpha is the most widely used reliability measure for social science research, and therefore it was used in this study.

Reliability analysis was performed to assess internal consistency to determine the extent to which each series of competencies within each competency domain measured the same underlying attribute (Pallant, 2007). Cronbach's alpha was used to measure the reliability of the scale, and this statistics provides researchers with an indication of the average correlation among all of the items that make up the scale. Values typically range from 0 to 1, where higher values indicate greater reliability. In this analysis, the Cronbach's alpha values area all above .7, suggesting very good internal consistency reliability for the scale with this sample. Values above .7 are considered acceptable; however, values above .8 are preferable (Pallant, 2007).

For the five competency domains (administrative, leadership, conceptual, interpersonal, and technical), the alpha is between .799 and .921. All values were positive indicating that the items are measuring the same underlying characteristic (Pallant, 2007). This indicated that the alpha was strong, reliable, cohesive, and consistent. The impact of removing each item from the scale was tested, and the resultant values, indicated that deletion of any items would not improve the scale.

Once this was completed, the researcher reviewed the conceptual model with the consulting team and, based on the feedback given, the competency items that were included in the in Web-based self-administered questionnaire were finalized (see Appendix B).

According to Babbie (1990), a pilot study should be directed at a representative sample of the target population. The pilot-study sample, then, should be selected in exactly the same fashion as is intended for the final survey.

The pilot survey was administered to faculty members from the International School of Hospitality and Tourism Management, (to represent the 4-year Educator sample), faculty

members from an associate degree program (to represent the 2-year Educator sample), and chef practitioners/chef owners from the food-service industry. To parallel Tas's (1983) study, a mean score for each competency statement was calculated and competency statements which received a mean score of 3.5 or above were used for the final instrument.

Based on feedback from the participants in the pilot study, no modifications were necessary to the survey instrument.

Validity

According to Babbie (1990), factor analysis is used to discover patterns among the variations in values of several variables, essentially through the generation of artificial dimensions (factors) that correlate highly with several of the real variables. An exploratory factor analysis was conducted to determine if the questions in the survey correspond to the constructs that were developed.

According to Creswell (2003), the three traditional forms of validity to look for are content validity, predictive or concurrent validity and construct validity. Although the study was based on Tas's (1983) previous work on manager trainee competencies, the proposed study altered the parameters of the initial study by measuring for different content and criterion, and measured hypothetical constructs based on a theoretical framework which was not used in the initial survey design. When one modifies an instrument or combines instruments in a study, the original validity and reliability may not hold for the new instrument, and it becomes important to re-establish validity and reliability during data analysis in a survey study (Creswell, 2003).

A pilot study of hospitality educators and hospitality industry practitioners tested the instrument to establish construct validity.

According to Linstone and Turoff (1975), the validity of the judgment of an entire group is typically measured in terms of the "degree of consensus among the experts". Linstone and

Turoff (1975) believe that an empirical generalization (or communication) is judged "objective," or "true," or "factual" if there is "sufficient widespread agreement" on it by a group of "experts" (p. 21). It is this degree of consensus which is the measure of validity.

Factor analysis is a set of techniques for identifying the underlying hypothetical constructs to account for the relationship between variables. Principal components analysis is extremely similar and may be used as a preliminary stage to factor analysis itself. Principal components analysis (PCA) and factor analysis are both procedures for analyzing the correlation matrix to find the underlying constructs or latent variables which explain the pattern of correlations and it contains how far each one is measured by each of the variables. In PCA, a set of correlated variables is transformed into a set of uncorrelated variables, the components, which are expected to be smaller than the set of the original variables. On the other hand, factor analysis (FA) is similar, but yields factors rather than components, although researchers typically refer to the outcome of both PCA and FA as factors. With both PCA and FA, a large set of measures is reduced to a smaller set of factors which explain the maximum amount of variance in the bivariate correlations (Foster, Barkus & Yavorsky, 2006).

The distinction between PCA and FA is that in PCA the communalities are left as 1.00, so all the variance in the variables is being analyses. But in FA the commonalities are replaced by estimates rather than the actual values of 1.0 (Foster, Barkus & Yavorsky, 2006).

Exploratory factor analysis is used to identify the hypothetical constructs in a set of data, while confirmatory factor analysis, is used to confirm the existence of these hypothetical constructs in a fresh set of data. According to Pallant, (2005) there are two main approaches to factor analysis. Exploratory factor analysis is often used in the early stages of research to gather information about (explore) the interrelationships among a set of variables. Confirmatory factor analysis, on the other hand is a more complex and sophisticated set of techniques used later in

the research process to (confirm) specific hypotheses or theories concerning the structure underlying a set of variables (Pallant, 2005).

For the purpose of this analysis, exploratory factor analysis (EFA) was used as a data reduction technique to summarize the data, and also to look for "clumps" or groups among the variables (Pallant, 2005, p. 172).

The two main approaches to rotation, orthogonal (uncorrelated) and oblique (correlated) factor solutions were considered. According to Tabachnick and Fidell (2001, as cited in Pallant, 2005), orthogonal rotation results in solutions that may be easier for interpretation purposes, but are contingent on the assumption that the underlying constructs are independent and are not correlated (Pallant, 2007). The different rotational techniques included in the orthogonal category includes Varimax, Quartimax, and Equamax.

The most commonly used orthogonal approach is the Varimax method, which attempts to minimize the number of variables that have high loadings on each factor; which make may it easier to interpret the factor (Foster, Barkus & Yavorsky, 2006). Although both the orthogonal and oblique rotation methods were explored, research has indicated that oblique rotation of the factors produces a clearer outcome. If oblique rotation is used, the output tends to be more complicated. Following oblique rotation you get a factor structure matrix and a factor pattern matrix. These look similar, and their meanings are readily confused (Giles 2002, p. 129). Kline (1994, p. 63) further supports this: "The factor structure consists of the correlations of the original variables with the rotated factors……it is important…. That the structure and not the pattern is interpreted."

For purposes of this study, the Varimax method was selected since the orthogonal (uncorrelated) method results in solutions that may be easier for interpretation purposes (Tabachnick & Fidell, 2001).

Exploratory Factor Analysis

Loadings and proportion of variance accounted for by each factor after varimax rotation are reported in Table 4 below, illustrating how the variance is divided among the 40 possible components/factors. A five-factor solution accounting for 56.6 percent of the variance, observed in the correlation matrix was yielded by the principal components EFA model. Eight factors have eigenvalues (a measure of explained variance) greater than 1.0 which is a common criterion for a factor to be useful. Over one-half of the variance is accounted for by the five factors.

The analysis attempted 10 iterations before converging on the solution shown in the Rotated Component Matrix–see Table 5. The analysis has sorted the 40 competency statements into the five competency domains as follows; Administrative (13), Leadership (7), Conceptual (8), Interpersonal (7), and Technical (5). Within each component, the items were sorted from the one with the highest factor weight or loading to the one with the lowest that was still loaded the most on that factor.

The first factor revealed that items relating to performing administrative processes underlie a single factor. The highest loadings were on competency statements C42, C22, and C23. These competency statements included: ability to participate in the recruiting, hiring, orientation, training, and evaluative performance process of employees, (C42=.758); analyzes past and present business information to effectively predict future marketing strategies, (C22=.730); and ability to analyze and interpret daily, weekly, monthly and annual financial and statistical reports, and make sound financial decisions to improve operational efficiency (C23=.698).

Factor 2, labeled Leadership, consisted of factor loadings above .6 on competency statements C9 and C15. These competency statements included: delegates responsibility and authority to personnel according to departmental objectives (C9=.616), and understands the role

of the leader within the company culture and has the ability to develop leadership in others (C15=.601).

Factor 3, labeled Conceptual revealed that items related to planning, problem-solving, analysis and interpretation, and the development of a business and marketing plan underlie conceptual processes. This factor contained the three highest loading factors: Assists in the development and maintenance of budgets to ensure that labor costs and controllable costs are within budgetary projections and standards (C2=.754), participation in the development and implementation of a marketing plan by assisting the Executive Chef in identifying customer demographics and marketing trends (C3=.761), and assists in the development and execution of the annual business plan (C5=.769).

Factor 4, labeled Interpersonal revealed that items relating to following federal, state, and local sanitation and safety regulations to ensure compliance by the organization-certified in servsafe (C34=.783) and ensures that all processes comply with HAACP - ability to institute appropriate protocol for food borne illness outbreak (C35=.774) underlie the Interpersonal construct. The highest factor loadings were on competency statements C34 and C35 respectively indicating the industry's adherence to and respect of extremely strict safety processes to ensure freedom from food borne illnesses and diseases.

Factor 5, labeled Technical revealed that items relating to technical processes such as possessing appropriate technical skills set in all kitchen areas (C18=.776), has adequate product knowledge regarding availability, seasonality, and purchasing of food and beverages (C19=.782), and has adequate product knowledge regarding availability, seasonality and purchasing food and beverages (C28=.782) were amongst the highest factor loadings in the analysis. These competency statements constituted the technical construct indicating that although this study is focused on primarily manager trainee competencies, the chef's ability to excel in the technical

area is still perceived as the most critical skill set for success in an entry-level culinary management position.

Table 4

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.586	32.347	32.347	6.267	14.922	14.922
2	3.951	9.406	41.753	4.767	11.350	26.271
3	2.669	6.354	48.108	4.745	11.298	37.569
4	1.879	4.475	52.582	4.151	9.882	47.451
5	1.650	3.927	56.510	3.804	9.058	56.510

Table 5

Rotated Component Matrix[a]

1

	Component				
	1	2	3	4	5
C42	.758				
C22	.730		.354		
C23	.698				
C41	.668				
C21	.623	.385			
C33	.571		.386		
C40	.556			.351	

	Component				
	1	2	3	4	5
C32					
	.549				
					.519
C39	.528	.512			
C27	.527	.421			
C17	.514	.360			
C25	.447	.382			
C16	.405	.403			
C11		.627			
C9		.616	.444		
C15		.601			
C36	.403	.592			
C37	.415	.566			
C10		.508	.351	.339	
C38		.497			
C5			.769		
C3	.372		.761		
C2			.754		
C1			.685		
C6			.621		
C7	.487		.579		

	Component				
	1	2	3	4	5
		.427	.521		
C8					
C4		.390	.475		
C34				.783	
C35				.774	
C20				.713	
C12		.364		.630	
C14		.505		.527	
C24				.499	
C26				.476	
C13		.412		.442	
C19					.782
C28					.782
C18					.776
C30					.620
C31	.494				.586
C29	.455				.583

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 10 iterations.

Table 5, the rotated component matrix, illustrates that the survey respondents grouped the variables differently than the researcher which resulted in a different pattern of correlation or groups of closely related items. Although the conceptual model (pre-survey) was constructed with a consulting team and was not altered after the pilot study, it is apparent that the educators and practitioners perceived the placement of the constructs differently as indicated in the factor analysis and the conceptual model (post-survey). This was seen in competencies classified (pre-survey) as Technical and (post-survey) were later grouped in the Interpersonal constructs, competencies (pre-survey) placed in the Technical construct, and (post-survey) grouped into the Administrative category, and competencies classified (pre-survey) as Interpersonal and (post-survey) were later grouped into the Leadership category.

The empirical model and a chart detailing the change from the conceptual model to the empirical model is located in Appendix E. The empirical model (post-factor analysis) will be used for analytical purposes.

Data Analysis

The criterion variable (dependent variable) in this study will be the level of importance of the competencies. The variates (independent variables) will be the professional role: the industry practitioners and educators. The independent variable for educators includes educators and Deans, Directors and Department Chairs at institutions offering an associate's and/or bachelor's degrees. Included in the independent variable for industry practitioners are chefs and chef-owners who are members of the James Beard Foundation.

For purposes of this analysis, the mean and the standard deviation were calculated concurrently with the mean value for statistical analysis purposes (Babbie, 1990). According to Babbie, descriptive statistics is a method for presenting quantitative descriptions in a manageable form. A quantitative approach is one in which the investigator employs strategies of inquiry such as experiments and surveys, and collects data on predetermined instruments that yield statistical data.

In the following section, the descriptive statistics, t-tests, ANOVA and post-hoc tests that were used to analyze research questions 1, 2 and 3 will be discussed.

For research questions 1 and 2, exploratory factor analysis, principal component analysis, descriptive statistics including frequencies, means, and standard deviations were used to summarize the data, tests of statistical significance were used to determine whether a given association between two variables was significant, and statistical analysis on the responses from the self-administered online survey was computed using the Statistical Package for Social Sciences (PASW17).

Specifically, independent-samples t-test, and a one-way ANOVA with post-hoc tests were employed to test for differences between the groups studied and to identify where the differences lie within the groups.

Research Question 1

What do culinary industry practitioners and educators' believe are the most important core competencies that should be integrated into a 4-year bachelor's program in the Culinary Arts to help students learn the appropriate technical and professional skills necessary for success in the field?

Descriptive statistics (frequencies, means and standard deviations) were used to determine the level of importance perceived by the practitioners and educators in order to

identify the competencies that should be integrated into a 4-year bachelor's program in the Culinary Arts.

The composite mean of the level of importance of each competency statement was determined for entry-level culinary managers by survey respondents based on a 5 point Likert type scale (1) = Essential, (2) = Considerable Importance, (3) = Moderate Importance, (4) = Limited Importance, and (5) = No importance.

Practitioners and educators competencies falling within the range of essential to moderate importance were considered the most importanct competencies for inclusion in a bachelor's degree program in the Culinary Arts.

Research Question 2

Do industry practitioners and culinary educators (Beard foundation Professional members and ICHRIE members) differ in the recommended core competencies necessary for a bachelor's degree in the Culinary Arts?

Descriptive statistics were used initially to identify the frequencies, means and standard deviations for the practitioners and educators to determine the level of importance perceived for each competency statement. To test whether there was a statistically significant variance on the five domains of competency between the practitioners and educators, a t-test for Equality of Means was performed at a level of significance of .05. An independent-samples t-test is used when you want to compare the mean score, on some continuous variable, for two different groups of subjects (Pallant, 2005). Since the purpose of this analysis was to compare, the variates (categorical, independent variables) represented by industry practitioners and educators with the criterion variable (continuous, dependent variable) indicated by the level of importance of the competencies, an independent sample t-test was chosen.

If it is determined that there is not a statistical difference between the educators and practitioners, the individual subgroups contained within the two groups will be analyzed. A one-way analysis of variance is used when you have two or more groups and you wish to compare their mean scores on a continuous variable. It is called one-way because you are looking at the impact of only one independent variable on your dependent variable. A one-way analysis of variance (ANOVA) will let you know whether your groups differ, but it will not tell where the significant difference is. ANOVA was used to test for preference differences among the subgroups of the practitioners (chef practitioners and chef owners) and the educators (hospitality and culinary educators).

For purposes of this study, between-groups (or independent samples) ANOVA, comparing the mean scores of two or more different groups of people, will be utilized. A one-way analysis of variance (ANOVA) will let you know whether groups differ, but it does not identify where the significant difference is. You can conduct post-hoc comparisons to find out which groups are significantly different from one another. To identify the specific areas of disparity, post-hoc tests were used to determine which groups were different from each other and where the specific differences laid within the line item competency statements (Pallant, 2005).

Curriculum Assessment – Research Question 3

To what extent are competencies deemed essential by industry professionals and educators embedded within the courses required by highly-ranked bachelor's degree programs in the culinary arts?

Identifying the five-highly ranked bachelor degree programs in the Culinary Arts required a two-step process. Initially, the researcher worked with the consulting team to identify the bachelor degree programs in the culinary arts perceived to be exceptional in the industry. Using this method, 10 bachelor degree programs in the culinary arts were identified as "highly-

ranked" programs. Once identified, the researcher and the consulting team assessed each program based on a comparison of college-ranking criteria.

To aid in the selection of the five highly ranked bachelor degree programs in the United States, a search of the literature was conducted to find peer-reviewed journals which rank colleges. No peer-reviewed journals which rank colleges for hospitality management and/or culinary arts degree programs were found. It was found however, that *The US News & World Report (USNWR),* though not a peer-reviewed publication, has published college rankings since 1983. Researchers noted that prestigious peer reviewed journals including the *American Journal of Education* and IPEC have employed and critiqued the criteria used in this ranking system. These reviews have impacted student behavior, and the organizational field of higher education (Bastedo & Bowman, 2010).

Bastedo & Bowman (2010) found that published college rankings have a significant impact on future peer assessments, independent of changes in organizational quality and performance and even of prior peer assessments of reputation. Their study confirmed empirically how USNWR rankings influence the organizational field of higher education (Bastedo & Bowman, 2010).

Supporting this, another study conducted by Griffith and Rask (2004) found that school choice is responsive to changes in institutional rank. It was also found that college administrators pay attention to *US News & World Report* rank since it has been found to be an important factor impacting the perception of higher education providers, and student and community responses to these institutions. Results from the Griffith and Rask study indicated that there is a benefit to a positive change in a school's USNWR rank. While the components and methodology behind the USNWR rankings have changed over the years, the rankings have been

in existence since the 1980s. The USNWR is a weighted combination of 7 main groups of measures; however, the reputation component of the rank is still one of the most important of these (Griffith & Rank, 2004). These findings support the use of college rankings as a method of identifying the highly-ranked institutions and programs of higher education.

The criteria selected for use in this study with the supporting rationale is as follows.

Reputation/ Peer assessments. The culinary arts is a newly emerging field and curriculum is currently in the embryonic stages, therefore peer assessments and academic reputations play a pivotal role in the selection process. A consulting team aided the researcher in identifying the leading culinary arts programs in the United States.

Graduation Placement. If food-service/restaurant industry professionals hire, train and retain college graduates, they do so based on the reputation of the institution, familiarity with the qualifications of graduates, and perhaps due to a professional connection with the institution (serve as a member on the advisory board and/or participate in internship/externship programs).

Retention rates. Associate degree programs have struggled for years to positively impact graduation and retention rates. Students interested in being a chef, typically want the vocational/technical portion of the training, but, historically may have faltered with the academic portion of the program.

Faculty resources. The percentage of faculty with advanced degrees and the percentage of faculty who are full-time typically may be indicative of the level of commitment that an institution has to its faculty and students.

Based on the criteria used in this study, five of the recommended bachelor degree programs were eliminated due to lower retention and/or graduation placement scores.

The comparative culinary school chart which indicates the ranking criteria for the five highly-ranked including the year the program began, graduation rates, and retention rates is illustrated in Table 6. Due to maintaining anonymity, the five highlyt-ranked schools are identified through this study as comparative 1, 2, 3, 4, and 5.

Table 6

Criteria used to rank Bachelor degree programs in the Culinary Arts

Colleges	Number of Students	Date Started	Accreditation	Retention Rate	Percentage of Graduates Placed	Number of Full-time Faculty	Number of years of industry experience	Starting Salary upon graduation
Comparative #1	Hotel 2,680 Culinary 120	1969 1998	Northwest Commission of Colleges and Universities	90%	90%	51	20+	$35,000
Comparative #2	Hotel 800 Culinary 24	2006	Middle States	92-95%	90%*	60-62	25*	Hotel - $46,270 Culinary $42,553
Comparative #3	3,000	1973	Northeast Association of Schools and colleges	75%	80%	20 8 depart. Chairs	10+	$35,000
Comparative #4	2,700		Middle States	80%	92-96%	100	20+	$35,000
Comparative #5	200	1998	Higher Education Learning Commission	96%	96%	30	20+	$40,000

The second part of the curriculum assessment identified the management core curricula at the five highly-ranked bachelor degree programs in the Culinary Arts. The core curricula management classes for each of the highly-ranked bachelor degree programs in the Culinary Arts were identified. The researcher then analyzed the course objectives and learning outcomes and determined the appropriate placement of each course within the theoretical framework competency domain (administrative, leadership, conceptual, interpersonal, technical).

The final step in this process was to determine whether the five highly-ranked schools had embedded within their curricula the courses deemed essential by industry practitioners and educators. The process to connect competencies deemed essential to the courses at the five highly-ranked schools included reviewing the course descriptions within the course catalogs and on the websites of the five highest-ranked schools to identify course objectives and/or learning outcomes for each of the highly-ranked programs. Once the course objectives and learning outcomes were assessed, the researcher analyzed the commonalities and differences within the learning outcomes contained within the course descriptions for each of the programs. Next, the researcher developed a course description for each management core class which encompassed the spectrum of detail reflecting the course objectives for each of the programs.

To illustrate the process applied and the rationale employed for connecting the course descriptions to the conceptual domains, the following section includes: (a) the competencies from the empirical model which support the rationale for placement of the course description to the competency domain (b) the course descriptions for each management course followed by the competency domain connected to each course description (c) a table containing the management core curricula classes identified at the five highly-ranked culinary arts degree programs placed in the most appropriate competency domain, and (d) the recommended types of courses within each

competency domain that have been found at highly ranked culinary arts degree programs and have been identified by practitioners and educators.

Table 7

Empirical Model for Culinary Manager Trainees

Conceptual	Leadership	Interpersonal	Administrative	Technical
Assists in the development and execution of the annual business plan	Delegates responsibility and authority to personnel according to departmental objectives	Follows federal, state, and local sanitation and safety regulations to ensure compliance by the organization-certified in servsafe	Promotes a cooperative union-management relationship and manages employee grievances effectively, if applicable	Has adequate product knowledge regarding availability, seasonality, and purchasing of food and beverages
Participates in the development and implementation of a marketing plan by assisting the Executive chef in identifying customer demographics and market trends	Has the ability to manage diversity through leadership-ensures compliance with EOE and Affirmative Action	Ensures that all processes comply with HACCP-ability to institute appropriate protocol for food borne illness outbreak	Understands all human resource responsibilities and assists in the development of job specifications and job descriptions	Possesses appropriate technical skills set in all kitchen areas
Assists in the development and maintenance of budgets to ensure that labor costs and controllable costs are within budgetary projections and industry standards	Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees.	Demonstrates professional appearance, poise, and ethical standards in the work environment	Assists in the development and control of departmental employee productivity	Maintains a basic knowledge of equipment functioning and maintenance
Assists in operational and strategic planning	Understands the role of the leader within the company culture and has the ability to develop leadership in others	Demonstrates positive customer relations-manages guest problems with understanding and sensitivity	Analyzes past and present business information to effectively predict future marketing strategies	Ability to balance the menu in relation to the physical layout of the kitchen
Assists in establishing organizational objectives and their priorities and possesses the needed leadership qualities to achieve the organizational objectives	Creates a shared vision with team members through the process of empowerment	Communicates effectively both written and orally	Ability to analyze and interpret daily, weekly, monthly, and annual financial and statistical reports, and make sound financial decisions to improve operational efficiency	Practices effective menu management and incorporates effective production management processes to ensure cross utilization and quality production

Conceptual	Leadership	Interpersonal	Administrative	Technical
Possesses an entrepreneurial mindset to apply operational demands (thinks like an owner)	Ability to develop professional goals and action plans to achieve career objectives for self and staff	Computer literate	Develops work schedules to meet specific operational requirements	
Develops solutions after identifying organizational and/or operational problems	Understands and practices total quality management	Operates effectively and calmly under pressure or in crisis situations	Ability to effectively balance the administrative functions with operational requirements	
Assists in the analysis and interpretation of customer demographics to identify market trends for menu development			Ability to build creativity into the menus while maintaining standardized recipes and procedures-can make revisions when necessary	
			Provides incentives to build awareness of maintain an accident free work environment	
			Maintains a position of chef as "coach" and team leader	
			Effectively manages controllable expenses relative to the areas of responsibility	
			Ability to interpret ratios and trends to ensure operational efficiency and productivity	
			Ability to participate in the recruiting, hiring, orientation, training, and evaluative performance process of employees.	

Course Titles and Descriptions

Senior Capstone Projects: Conceptual Competency Domain

Senior capstone classes focus on integrating knowledge from marketing, accounting, facilities planning and management. The goal of the senior capstone classes is for students to integrate their knowledge to develop and execute a business plan.

Advanced Food Service Operations: Conceptual Competency Domain

An upper-level senior capstone course where students integrate management competencies in a food service setting. Focus is on staff scheduling, menu development, service, production planning and financial accountability.

Foodservice Business Planning: Conceptual Competency Domain

Students may be required to develop and implement a strategic plan for a hospitality business – this may include identifying marketing and operational objectives to include financial objectives and identifying pertinent marketing information.

Hospitality Marketing: Conceptual Competency Domain

Explores basic marketing principles and the application to the hospitality industry including the marketing mix, pricing, product/service mix, positioning, branding, distribution, marketing segmentation and culminates with strategic marketing.

Hospitality Strategic Marketing: Conceptual Competency Domain

Students participate in the development and implementation of a marketing plan from the analysis and interpretation of demographics and market trends for menu development to the design of the departmental marketing budget allocation of resources, market research, and assisting in strategic planning regarding media selection.

Marketing and Promoting Food: Conceptual Competency Domain

This strategic marketing course integrates marketing principles including pricing, placing, product development and enhancement, market planning, target marketing, and purchasing. Topics include forecasting, market research, competitive analysis, market segmentation, and the promotional mix as they impact marketing food, restaurants, and services. Students may be asked to develop a marketing plan, conduct market research, engage in strategic marketing and marketing planning,

Strategic Management: Conceptual Competency Domain

Focus is on the integration of previous coursework including accounting, marketing, finance, and the relationship with the industry, enterprise and the competitive environment. Students are supported in their development of analytical tools so that they develop critical thinking and decision-making processes for a deeper understanding of how to analyze the industry, the competitive environment, and engage in operational and strategic planning and thereby develop solutions.

Marketing Management for Services: Conceptual Competency Domain

This course examines marketing management and the processes whereby organizations plan, implement and control programs to ensure a valuable working relationship with target buyers. At the conclusion of the course, students integrate the information gleaned in the course and prepare a marketing plan.

Hospitality Management Seminar: Conceptual Competency Domain

This is a senior-level capstone course which presents computer-based simulation and applications programs into management theory so that students can engage in operational and strategic

planning.

Human Resource Management: Leadership Competency Domain

Provides a framework for developing positive employee relations and understanding the role of the leader within the company culture. The course incorporates legal, and operational considerations in recruiting, selecting, hiring, training, compensating, developing, motivating, coaching and counseling, disciplining, employee retention and terminating employees. The course presents the policies and procedures that impact the Human Relations function including legislation, compliance, economics and demographics. Topics covered may include substance abuse in the workplace, affirmative action, collective bargaining, ADA, employee illiteracy, substance abuse, and safety and equity considerations. Students examine the complexities involved in the hospitality industry and how the various segments including food- service, lodging and tourism, impact the management and operation of food-service/hospitality establishments.

Leadership: Leadership Competency Domain

Students explore leadership and ethics in addition to the moral implication of decision making, and the subsequent impact on staff morale, and team spirit. Student's explore the role of the leader, discuss various leadership styles and develop their own leadership style and explore the many ethical and moral challenges facing leaders.

Introduction to Management: Leadership Competency Domain

Discusses management topics including; leadership, staffing, training, delegating, training, decision making and conflict resolution. Understanding the role of the leader within the company culture is explored.

Food Service Management: Leadership Competency Domain

A focus on management principles and strategies incorporating industry basics and their application to food service management.

Restaurant Operations: Leadership Competency Domain

Explores the operational perspective of a restaurant including restaurant design, purchasing, layout, site location, menu design, production and marketing enabling students to incorporate previous coursework and apply their knowledge in understanding the complexity of successful restaurant operations.

Service Operations Management: Leadership Competency Domain

Students are introduced to statistical and operations research methods utilized in the hospitality industry. The goal of the course is to provide students with the skills and understanding necessary for making decisions using quantitative data. Students learn and practice communicating analytical results in a clear and concise manner. Topics include; probability, decision analysis, modeling, forecasting, quality management, process design, waiting lines, and project management.

Introduction to Hotel Operations: Leadership Competency Domain

This course is designed to orient students to the scope of the hotel industry and the organizational structure and operations of the rooms division and the other hotel operating departments. Students gain a deeper understanding of the role of the operating departments and how activities are coordinated between departments to achieve operating efficiency. Students are required to complete a work experience in the front office/housekeeping area.

Introduction to Food Service Operations: Leadership Competency Domain

Students are introduced to the various facets of the foodservice industry and at the conclusion of the course complete a hands-on work experience. The various food-service segments are explored along with current food-service industry trends. The multi-faceted components of the food-service industry including service, controls, menu planning, and quality assurance are discussed.

Beverage Management: Leadership Competency Domain

Examines the management of a beverage operation including planning and development, bar layout and operations, identification of customer demographics and trends, costing and pricing, purchasing and inventory and human resources management.

Restaurant Management: Leadership Competency Domain

Students are able to synthesize the classroom-theory learned in other classes and apply them practically in an actual restaurant setting.

Information Systems: Interpersonal Competency Domain

Studies the computer software applications used in hospitality organizations and reviews the decision - making process for selecting computer systems and the efficient use of technology in the industry.

Interpersonal Communication: Interpersonal Competency Domain

Explores the skills needed to communicate effectively in small and large groups both written and orally. Students develop human-relation skills so that they can demonstrate professionalism in the workplace, apply ethical standards and interact with employees and guests problems with understanding and sensitivity.

Legal Issues in Hospitality: Interpersonal Competency Domain

Focuses on the rights and responsibilities of hospitality organizations, guests, and employees. Specifically students are given in-depth knowledge regarding federal, state, and local sanitation and safety regulations to ensure compliance by the organization in the areas of servsafe and compliance with HACCP. Topics range from contract law, legal obligations binding owners and employees, dram shop law and state and federal regulations. Students are introduced to employment discrimination, including harassment and ADA regulations.

Management Communication I: Interpersonal Competency Domain

Provides a framework for understanding the importance of effective communication skills so that students can demonstrate positive employee and customer relations and gain the ability to manage employee and guest problems in a professional manner applying ethical standards in the work environment. Students gain additional skills in developing complex written communications and in delivering effective oral presentations.

Management Communication II: Interpersonal Competency Domain

This course integrates the concepts from Management Communication I and introduces additional concepts including organizational behavior and interpersonal skills. Other topics include the theory and principles of persuasion and their application in a range of management and leadership contexts.

Organizational Behavior: Interpersonal Competency Domain

Explores how to manage people in a professional and ethical manner in the workplace – students also gain knowledge in the practical tools for accomplishing personal and organizational goals. Topics include individual differences, conflict management, problem-solving, power and

influence, motivation, leadership, coaching and counseling, and group process. This course covers transmitting messages and methods of perceiving information in personal relationships in the workplace and within the small groups. The course also explores those factors that impact decision-making in groups and the impact of psychological and sociological theories and their impact on human behavior.

Financial Accounting/Accounting I: Administrative Competency Domain

Presents basic accounting principles including an introduction to transaction analysis, the balance sheet, income statement, and cash flow analysis. Students also are introduced to accounting methods for receivables, inventories, capital stock, and financial ratios.

Managerial Accounting/Accounting II: Administrative Competency Domain

Based on the concepts of Financial Accounting, students analyze financial statements, assess operational performance, prepare financial statements and budgets, and gain a deeper working knowledge of how to use accounting information for management decision making. In this class, students gain the skills necessary to analyze and interpret financial and statistical reports so that they are able to make financial decisions to improve the operational efficiency of their establishments.

Accounting and Budget Management: Administrative Competency Domain

This course provides an introduction to financial and managerial accounting. Students learn how to construct, interpret, and evaluate financial statements and other managerial reports. Focus will be placed on a variety of analytical tools and procedures used to measure the financial performance in the foodservice industry.

Hospitality Financial Management: Administrative Competency Domain

Explores the application of quantitative tools for sound financial investment decision-making and focuses on owners of hospitality assets and equity investors. Specifically, the student's understanding of the strategic role of real estate in the hospitality industry is developed. Topics range from the fundamentals of hotel and restaurant financing, valuation of assets, hotel and restaurant financing to an overview of management contracts and franchise agreements in the hospitality industry.

Finance: Administrative Competency Domain

Introduces students to managerial finance and topics range from risk analysis for capital budgeting, long-term financing, debt capacity, and raising capital in the public market. Primary objective is for students to utilize accounting and cash flow information for financial planning, capital budgeting and long-term financial decision making.

Quantitative Analysis: Administrative Competency Domain

Provides a framework for using statistical methods including hypothesis testing, descriptive statistics, linear regression, multiple regression, and estimation and hypothesis testing for problem-solving and decision-making.

Cost Control: Administrative Competency Domain

Examines the flow of goods, inventories, food and beverage costing processes, forecasting and budgeting, and controlling labor and food costs and the resultant impact on profitability.

Menu Planning and Cost Control: Administrative Competency Domain

Students integrate knowledge pertaining to professional menu development with the use of the working documents necessary to control food and beverage costs and for forecasting, budgeting

and evaluating sales.

Culinary Internship/externship: Technical Competency Domain

This is a required hands-on supervised learning experience/internship at an approved internship site and enables students to practice and hone the skills they acquired in the kitchen and classroom. Required hours depend on the course requirements, but may range from 400 to 1000 hours. During the experience, students receive feedback from this supervisor and usually maintain a journal to record and reflect on the experience. At the conclusion of the internship, students may be required to submit an internship portfolio. The goal of the internship is for the students to connect classroom theory with practical experience and practice professionalism in a university-approved industry setting. At the completion of the internship, students have gained a broader understanding of the demands and expectations of the food-service/hospitality industry while improving their skills in the craft of culinary arts.

Culinary Theory and Practice: Technical Competency Domain

In this course, students coordinate three major components which include fundamental food composition and properties, food products and preparation, and food safety. Through gaining additional knowledge in three key areas which includes food composition and properties, food products and preparation and food safety, students prepare recipes, menus, and production schedules.

Hospitality Facilities: Technical Competency Domain

Discusses the engineering and maintenance function of hospitality establishments including equipment selection and maintenance, engineering and maintenance functions of an operation, and the need for preventive and reactive maintenance systems. Topics explore HVAC systems, energy management, laundry and kitchen design and equipment,

safety and security systems, water and waste water systems, and vertical application systems. Capital expenditure planning and renovation projects are discussed along with the manager's responsibility for addressing environmental concerns.

Hospitality Development & Planning: Technical Competency Domain

Students explore the many facets of hospitality development, design and planning from project development to conceptual and space planning, architectural design criteria, and construction management. The focus is on analyzing facilities requirements and industry practice within the appropriate operations and financial requirements.

Food Science: Technical Competency Domain

This course explores the scientific method along with the chemical and physical changes that occur during preparation, processing, and storage of food products.

Restaurant Management: Technical Competency Domain

Students synthesize classroom learning and apply them practically in an actual restaurant.

Next, the researcher compared the course descriptions for each of the management core courses with the empirical model (Appendix E) to identify similarities between the course descriptions and competencies so that the course descriptions could be placed into the appropriate competency domain. Each course description was placed within the most suitable competency domain, and the types of courses that belonged under each competency domain were identified. The results are indicated in Table 8 on the following page.

Table 8

Management Core Curricula – Competency Domain Placement

Conceptual	*Leadership*	*Interpersonal*	*Administrative*	*Technical*
Senior capstone Projects/Hospitality Management Seminar	Human Resources Management	Legal/Law Classes in Hospitality	Financial Accounting or Accounting I	Culinary Internship Externship Practicum
Foodservice Business Planning	Foodservice Management	Interpersonal Communication	Managerial Accounting or Accounting II	Hospitality Development and Planning
Hospitality Marketing Hospitality Strategic Marketing	Introduction to Management	Organizational Behavior	Accounting and Budget Management	Restaurant Management
Marketing and Promoting Food	Leadership	Introduction to Management Communication	Hospitality Financial Management	Culinary Theory and Practice
Strategic Management Marketing Management for Services	Management Seminar Service Operations Management	Management Communication Advanced	Finance	Facilities Management
Operations Management and Planning	Restaurant Operations	Information Systems and Hospitality	Quantitative Analysis	Food Science
Quantity Food Production	Introduction to Foodservice Operations		Introduction to Menu Planning and Cost Control	Study Abroad
Advanced Food Service Operations Management	Introduction to Hotel Operations		Beverage Management	Food History and Organizational Communication

After the course descriptions were placed within the competency domain, and the types of classes belonging to each construct were identified, the management courses at each of the five highly-ranked culinary schools were assigned to a competency domain. To determine whether the placement was appropriate, the researcher attempted to speak directly with the Deans and/or curriculum specialists from each of the highly-ranked culinary arts degree programs for feedback and/or recommendations regarding the placement of the management courses within the theoretical framework.

After the discussion with the Deans and/or curriculum specialists, the findings will state whether they; (a) agreed with the researchers placement of the management core curricula within the theoretical framework and no changes were made, or (b) did not agree with the researcher's placement of the classes and they made changes to the curriculum assessment. The "before" and "after" diagrams will illustrate the findings for comparative purposes. A summary of the similarities and differences in the core curriculum content areas for each of the five highly-ranked bachelor degree programs in the Culinary Arts will be included in the findings.

Summary

This chapter discussed in detail the quantitative analysis and curriculum assessment that were employed in this study. The first part of the study, the quantitative analysis involved a statistical analysis of an online survey to culinary practitioners and educators to rank their perception of the importance of culinary manger trainee competencies. The populations selected for the study included the professional members of the James Beard Foundation (JBF) and the International Council of Hospitality and Institutional Educators (ICHRIE). The survey was distributed online to approximately 1600 potential respondents, and, using a Likert scale, participants were asked to rate the competency statements using a five-point rating scale; For

this survey, 1=essential; extreme importance; 2=considerable importance; above average; 3=moderate importance; average importance; 4=limited importance; less than average importance; 5= no importance.

Descriptive statistics, including frequencies, means and standards deviations were used to determine the level of importance of the competency statements. A one-way analysis of variance (ANOVA) and post-hoc tests were done to determine the differences in the competency ratings for the educators and practitioners, and for the subgroups.

The second part of the study contained the curriculum assessment of the five highly-ranked bachelor degree programs in the Culinary Arts. To identify the top-ranked bachelor degree programs in the Culinary Arts, the following criteria was used: reputation/peer assessments, graduation placement, retention rates and faculty resources. Once the highly-ranked culinary schools were identified, the management core curricula classes were analyzed and then placed within the competency domains of the theoretical framework. This was done to determine whether the highly-ranked schools had embedded within their curricula, the courses deemed essential by industry practitioners and educators.

Chapter IV

Findings

In this chapter, the findings from the quantitative analysis related to the research questions are discussed. Initially, the findings pertaining to the first three research questions will be discussed as follows with the results of the quantitative analysis. (a) What do culinary industry practitioners and educators' believe are the most important core competencies that should be integrated into a 4-year bachelor's degree program in the Culinary Arts to help students learn the appropriate technical and professional skills necessary for success in the field? (b) Do industry practitioners and culinary educators (Beard foundation Professional members and ICHRIE members) differ in the recommended core competencies necessary for a Bachelor's degree in the Culinary Arts? The statistical analysis following which addresses each of these questions includes; descriptive statistics, factor analysis, reliability analysis, independent-samples t-test, a one-way between-groups ANOVA, and post-hoc tests.

The second section of this chapter will present the findings related to the curriculum assessment. Specifically, the extent that the competencies deemed essential by industry educators and practitioners are embedded within the courses required by highly-ranked bachelor degree programs in the culinary arts is discussed. To address the overarching research question guiding the study, the recommendations found in (chapter 5) details a proposed management core curriculum which reflects the synthesis of the results from the competencies deemed essential by educators and practitioners with the curriculum assessment of the five highly-ranked bachelor degree programs in the culinary arts.

Results

Description of Participants

The final sample of respondents (N=271) for this study surveyed included 155 educators and 116 practitioners for a response rate of 17%. In the educator sample, there were 128 hospitality educators surveyed and 27 culinary educators. In the practitioners/owners sample, there were 52 chef practitioners and 64 chef owners. Table 9 provides a detailed description of the respondents who participated in the survey.

Table 9

Demographic Characteristics of Survey Participants

Current Full-Time Position	Number Of Practitioners	Percentage Of Practitioners	Number Of Educators	Percentage Of Educators
Female	24	21%	71	47%
Male	88	79%	80	53%
United States	82	71%	103	67%
Non United States	33	29%	50	33%
Associates Degree	42	43%	7	5%
Bachelor's Degree	47	48%	15	10%
Master's Degree	9	9%	52	36%
Doctoral Degree	0	0%	72	49%

Combined, the survey respondents (60%) had at least 16 years in the industry with the majority of the participants (45%) having 21+ years in the hospitality/culinary industry. Most of the participants were male (62%), and (35%) were female. The respondents were highly educated with over (50%) of the respondents holding graduate degrees, 22.5% with a master's degree and 29.2% holding doctoral degrees. The majority of the respondents live in the United States (68.3%), and 30.6% were non United States residents. The majority of the respondents were married (71.9%) and had children.

Response Bias. According to Fowler (1988), response bias is the effect of nonresponses on survey estimates. Bias means that if nonrespondents had responded, their responses would have substantially changed the overall results of the survey (Creswell, 2003, p. 160). An alternate check for response bias is to contact by phone a few nonrespondents and determine if their responses differ substantially from respondents. This constitutes a respondent-nonrespondent check for response bias (Creswell, 2003)

The researcher attempted to compare demographic information (gender, education level, and geographic location) information with the JBF and ICHRIE population with the research sample. Unfortunately, this type of detailed demographic information was not available from either association so this type of analysis was not possible and the possibility of response bias remains an open issue.

Research Question 1

What do culinary industry practitioners and educators' believe are the most important core competencies that should be integrated into a 4-year bachelor's degree program in the Culinary Arts to help students learn the appropriate technical and professional skills necessary for success in the field?

The composite mean of the level of importance of each competency was determined for entry-level culinary managers. Each of the five possible responses was assigned a value of 1 to 5 as indicated below in Table 10.

Table 10

Importance rating of competency statements

Level	***Composite Mean***
Essential	1
Considerable Importance	2
Moderate Importance	3
Limited Importance	4
No Importance	5

Table 10 indicates the mean and standard deviation for each of the five competency domains of the entire sample group of hospitality and culinary educators and culinary practitioners and owners.

Table 11

Combined ratings of Industry Practitioners and Educators of the Administrative, Leadership, Conceptual, Interpersonal and Technical Competency Domains

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Administrative Construct	225	1.00	4.23	1.9129	.63484
Leadership Construct	235	1.00	4.00	1.7954	.62148
Conceptual Construct	236	1.00	4.63	2.3369	.75374
Interpersonal Construct	225	1.00	2.71	1.3434	.40058
Technical Construct	225	1.00	4.00	1.6662	.59979

Note: 1 = Essential

The .05 level was chosen to determine statistical significance.

In Table 11, practitioners and educators rated all of the five factors as considerable to essential-moderate importance. The respondents which included the combined group of practitioners and educators rated interpersonal competencies (M=1.3434, SD=.40058), the technical competencies (M= 1.6662, SD=.59959), leadership competencies (M=1.7954, SD=.62148), administrative competencies (M=1.9129, SD=.63484), and the conceptual competencies (M=2.3369, SD=.75374).

Practitioners and educators considered the competencies pertaining to interpersonal skills to be the most important competency for students pursuing a bachelor's degree in the Culinary Arts, and considered the competencies pertaining to conceptual skills as the least important. In addition to having the highest mean score of the five competency domains, the range for the interpersonal competencies ranges from moderate to essential importance, in contrast to the

Administrative, Leadership, Conceptual, and Technical constructs which range from limited importance to essential importance.

The findings in Table 12 indicate that practitioners and educators rated competencies falling under the Interpersonal construct closest to essential and therefore the most important core competencies. Practitioners rated interpersonal competencies at (M=1.3404, SD = .37532) and educators rated interpersonal competencies at (M=1.3456, SD = .41918). Practitioners rated technical competencies at (M=1.6500, SD=.62092) and educators rated technical competencies (M=1.6779, SD=.58629). Since practitioners and educators rated the interpersonal and technical competencies the highest of the five competency domains and since their means fall between considerable importance to essential, an assumption can be made that courses which have these competencies embedded within them should be included in the core curriculum for a bachelor degree program in the culinary arts.

Based on these findings and the importance that practitioners and educators place on interpersonal skills, core competencies with interpersonal/human relations skills embedded within the curriculum would enable students to secure the foundation necessary to learn the appropriate technical and professional skills necessary for success in the field.

Research Question 2

Do industry practitioners and culinary educators (Beard Foundation professional members and ICHRIE members) differ in the recommended core competencies necessary for a Bachelor degree in the Culinary Arts? Table 12 below illustrates the mean and standard deviation for the industry practitioners and educators for the administrative, leadership, conceptual, interpersonal, and technical competency domains.

Table 12

Practitioners and Educators of the Administrative, Leadership, Conceptual, Interpersonal and Technical Constructs

	Profession	N	Mean	Std. Deviation	Std. Error Mean
Administrative Construct	Practitioners	94	1.9811	.71663	.07392
	Educators	131	1.8639	.56680	.04952
Leadership Construct	Practitioners	97	1.6775	.59664	.06058
	Educators	138	1.8783	.62729	.05340
Conceptual Construct	Practitioners	97	2.3303	.85705	.08702
	Educators	139	2.3416	.67560	.05730
Interpersonal Construct	Practitioners	94	1.3404	.37532	.03871
	Educators	131	1.3456	.41918	.03662
Technical Construct	Practitioners	94	1.6500	.62092	.06404
	Educators	131	1.6779	.58629	.05122

Note: 1 = Essential

As illustrated in Table 12, the industry practitioners and educators mean and standard deviations for the administrative, conceptual, interpersonal and technical competency domains are very similar. The mean for both the educators and practitioner groups for the Interpersonal, Technical, and Administrative constructs all fall within the considerable importance to essential range. Both the industry practitioners and educators rated the conceptual competency domain

M= (2.3303), and M=(2.3416) respectively, indicating a mean of considerable to moderate importance.

In comparing the means of the practitioners and educators, the data indicates that there is not a statistical difference between the means of the two groups, with the exception of the Leadership construct. The significance of the findings comparing the educators and practitioners is that the perceptions of the two groups in regard to core competencies are notably similar. The only difference between the practitioners and educators was in the leadership construct at (1.675) and (1.8783) respectively.

To determine whether there is a statistical significance in the observed differences surrounding the leadership construct, a t-test was performed and the results are displayed in Table 13.

Table 13

T-test for Equality of Means – Practitioners and Educators – Ratings of Competency Statements

	T	Df	Sig. (2-tailed)
Administrative Construct	1.317	170.634	.190
Leadership Construct	-2.487	213.019	.014
Conceptual Construct	-.109	174.485	.914
Interpersonal Construct	-.098	212.309	.922
Technical Construct	-.340	193.424	.734

*Level of Significance

Table 13 displays the results of the t-test between Educators and Practitioner for each competency domain to test whether there is a difference between the mean scores at a level of significance of .05. The mean score of Leadership competency domain is statistically significant with (t= -2.487, significance p=.014) which indicates that practitioners rated leadership as being more important than educators. To identify the specific areas of disparity, the individual competency statements within the leadership construct were analyzed as illustrated in Table 14.

Table 14

Competency Analysis of the Leadership Construct

	T	Df	Sig. (2-tailed)
Leadership Construct	-2.487	213.019	.014*
Q16. Delegates responsibility and authority to personnel according to departmental objectives	-.619	191.827	.536
Q17. Has the ability to manage diversity through leadership-ensures compliance with EOE and affirmative action	.903	181.128	.368
Q18. Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees	-.725	203.315	.469
Q22. Understands the role of the leader within the company culture and has the ability to develop leadership in others	-3.311	218.472	.001*
Q43. Creates a shared vision with team members through the process of empowerment	-1.764	184.963	.079
Q44. Ability to develop professional goals and action plans to achieve career objectives for self and staff	-1.468	180.152	.144
Q45. Understands and practices total quality management	-4.723	211.855	.000*

As illustrated in Table 14 in the competency analysis of the Leadership competency domain, item 22 (understands the role of the leader within the company culture and has the ability to develop leadership in others (t=-3.311, p = .001) indicates that chef owners/practitioners rated this competency more essential than the educators. For this question, practitioners rated it at 1.46 (closer to essential than considerable importance) versus the educators rated it as 1.77 (closer to considerable importance than essential).

Item 45 (understands and practices total quality management (t=-4.723, p= .000) indicates that chef owners/practitioners rated this competency more essential than the educators. For this question, practitioners rated it at (1.63) – between essential and considerable importance- versus the educators rated it at 2.17 which is considerable importance.

For the second portion of Research Question 2, a one-way ANOVA was used to test for preference differences among the four subgroups of the Practitioners and Educators. Specifically, a one-way ANOVA was used to test for preference differences between the Practitioners (chef practitioners and chef owners) and the Educators (hospitality educators and culinary educators) followed by post-hoc tests to determine where these differences lie within the subgroups.

In Table 15 for the ANOVA to determine if there was any difference between the four professional designations and constructs, the ANOVA indicates that the Administrative and Leadership competencies are significantly different in means among the four professional groups. Administrative competence differed significantly across the four subgroups [F (3,221) =3.5, p=.016]. Leadership competence also differed significantly across the four subgroups, [F (3,231) = 4.2, p=.006].

Table 15

ANOVA –Subgroups – (Chef Practitioners and Owners and Culinary and Hospitality Educators

			Sum of Squares	df	Mean Square	F	Sig.
Administrative Construct Profession	Between Groups	(Combined)	4.131	3	1.377	3.533	.016*
		Within Groups	86.146	221	.390		
		Total	90.277	224			
Leadership Construct Profession	Between Groups	(Combined)	4.716	3	1.572	4.239	.006*
		Within Groups	85.664	231	.371		
		Total	90.380	234			
Conceptual Construct Profession	Between Groups	(Combined)	3.726	3	1.242	2.220	.087
		Within Groups	129.784	232	.559		
		Total	133.510	235			
Interpersonal Construct Profession	Between Groups	(Combined)	.187	3	.062	.385	.764
		Within Groups	35.757	221	.162		
		Total	35.944	224			
Technical Construct Profession	Between Groups	(Combined)	1.645	3	.548	1.535	.206
		Within Groups	78.939	221	.357		
		Total	80.583	224			

To identify the specific areas of disparity, the individual competency statements in the leadership and administrative constructs were analyzed. As illustrated in Table 16, for the leadership construct, Questions 17, 22, 43, and 45 were significantly different.

Table 16

ANOVA Table of the competency statement of the four subgroups for the leadership construct

			F	Sig.
Leadership Construct	Between Groups	(Combined)	4.239	.006*
		Within Groups		
Q16. Delegates responsibility and authority to personnel according to departmental objectives	Between Groups	(Combined)	2.018	.112
		Within Groups		
Q17. Has the ability to manage diversity through leadership-ensures compliance with EOE and affirmative action	Between Groups	(Combined)	6.661	.000*
		Within Groups		
Q18. Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees	Between Groups	(Combined)	.421	.738
		Within Groups		
Q22. Understands the role of the leader within the company culture and has the ability to develop leadership in others	Between Groups	(Combined)	3.793	.011*
		Within Groups		
Q43. Creates a shared vision with team members through the process of empowerment	Between Groups	(Combined)	2.893	.036*
		Within Groups		
Q44. Ability to develop professional goals and action plans to achieve career objectives for self and staff	Between Groups	(Combined)	2.600	.053
		Within Groups		
Q45. Understands and practices total quality management	Between Groups	(Combined)	7.383	.000*
		Within Groups		

* Statistically significant

In Table 17, for the Administrative construct, Questions 29, 30, and 40 were significantly different.

Table 17

ANOVA Table of the competency statement of the four subgroups for the administrative construct

			Df	F	Sig.
Administrative Construct	Between Groups	(Combined)	3	3.533	.016*
		Within Groups	221		
		Total	224		
C16 23. Promotes a cooperative union-management relationship and manages employee grievances effectively, if applicable	Between Groups	(Combined)	3	2.443	.065
		Within Groups	216		
		Total	219		
C17 24. Understands all human resource responsibilities and assists in the development of job specifications and job descriptions	Between Groups	(Combined)	3	1.208	.308
		Within Groups	220		
		Total	223		
C21 28. Assists in the development and control of departmental employee productivity	Between Groups	(Combined)	3	1.287	.280
		Within Groups	216		
		Total	219		
C22 29. Analyzes past and present business information to effectively predict future marketing strategies	Between Groups	(Combined)	3	4.635	.004*
		Within Groups	219		
		Total	222		
C23 30. Ability to analyze and interpret daily, weekly, monthly, and annual financial and statistical reports, and make sound financial	Between Groups	(Combined)	3	3.880	.010*
		Within Groups	219		

decisions to improve operational efficiency *			222		
C25 32. Develops work schedules to meet specific operational requirements	Between Groups				
		Within Groups	216		
		Total	219		
Q34. Ability to effectively balance the administrative functions with operational requirements	Between Groups	(Combined)	3	1.617	.186
		Within Groups	218		
		Total	221		
Q39. Ability to build creativity into the menus while maintaining standardized recipes and procedures-can make revisions when necessary	Between Groups	(Combined)	3	1.092	.353
		Within Groups	218		
		Total	221		
Q40. Provides incentives to build awareness of maintaining an accident free work environment	Between Groups	(Combined)	3	3.977	.009*
		Within Groups	216		
		Total	219		
Q46. Maintains a position of chef as "coach" and team leader	Between Groups	(Combined)	3	1.943	.124
		Within Groups	211		
		Total	214		
Q47. Effectively manages controllable expenses relative to the areas of responsibility	Between Groups	(Combined)	3	.649	.584
		Within Groups	212		
		Total	215		
Q48. Ability to interpret ratios and trends to ensure operational efficiency and productivity	Between Groups	(Combined)	3	2.190	.090
		Within Groups	211		

		Total	214		
Q49. Ability to participate in the recruiting, hiring, orientation, training, and evaluative performance process of employees	Between Groups	(Combined)	3	1.425	.236
	Within Groups		209		
	Total		212		

* Statistically significant

Tukey post-hoc comparisons of the four groups for the Administrative competency domain indicated that the chef owners group (M=.35846, 95% CI[.6931,.0238] gave significantly higher ratings than the chef practitioners group (M=-.35846, 95% CI[-.6931,-.0238]. Comparisons between the chef owners group and the other three groups were not statistically significant at $p<.05$.

Tukey post-hoc comparisons of the four groups for the Leadership competency indicated that the hospitality educators group (M=.38342, 95% CI[.6624,.1044] gave significantly higher ratings than the chef practitioners group (M=-.38342, 95%CI[-6624, -.1044]. Comparisons between the chef owners group and the other three groups were not statistically significant at $p<.05$.

Research Question 3

To what extent are competencies deemed essential by industry professionals and educators embedded within the courses required by highly-ranked bachelor's degree programs in the culinary arts?

The findings of the curriculum assessment regarding placement of the management core curricula for each of the highly-ranked bachelor degree programs in the culinary arts within the theoretical framework are detailed in this section. If changes needed to be made to the

theoretical framework, the "before" and "after" diagrams are illustrated for comparative purposes. This is supplemented with a concluding summary of the similarities and differences in the core curriculum content areas for each of the highly-ranked bachelor degree programs in the Culinary Arts.

Table 18

Comparative Culinary Arts Program 1

Conceptual	Leadership	Interpersonal	Administrative	Conceptual
Integrative Senior Project (2 semesters)	Human Resources Management	Legal Issues in Hospitality Marketing	Financial Accounting	Culinary Internship Practicum
Introduction to Foodservice Business Planning	Foodservice Management		Hospitality Managerial Accounting	Culinary Internship Theory
Hospitality Marketing				Food History and Organizational Comm

At comparative program/institution 1, in the first seven quarters, students earn their associate's degree and quarters 8-12 are the culinary and General Education and Management courses. There are 60 General Education requirements, 118 culinary credits, and 8 internship credits which equals 186 total credits for a bachelor degree in the culinary arts.

The courses illustrated in Table 18 were extracted from the curriculum and designated as management core classes. As indicated, the Integrative Senior Project and Introduction to Food Service Planning encompass "developing solutions" which falls under the Conceptual competency domain due to "conceptual and planning" component indicated in the courses. The Strategic Marketing course was also placed in this competency domain due to the conceptual and

planning aspect of the course identified within the course description. Human Resource management and Foodservice Management were placed in the Leadership competency domain since "developing positive employee relations and understanding the role of the leader" were descriptors for the Leadership competency domain. The Legal Issues in Hospitality Marketing course relates to "compliance" which falls in the Interpersonal competency domain. Culinary Internship Practicum encompasses the application of "technical skills" in the kitchen which falls in the Technical competency domain. Financial and Managerial accounting are related to "managing controllable expenses" which falls in the Administrative competency domain.

The researcher attempted to confirm this placement with the Deans of the department by email and telephone, however, the Deans were not available to participate in discussing the survey findings.

As previously indicated, comparative culinary school 1 does have one or two courses under each of the competency domains designated as moderate importance to essential.

Table 19

Comparative Culinary Arts Program 2

Conceptual	Leadership	Interpersonal	Administrative	Technical
Marketing and Promoting Food	Human Resource Management	Introduction to Interpersonal Communication	Accounting and Budget Management	18-21 week required externship
	Introduction to Management	Organizational Behavior	Financial Management	
	Leadership and Ethics	Computers in the Food Business	Controlling Costs and Purchasing Food	
	Restaurant Operations	Restaurant Law		

At comparative program/institution 2, students earn their associate's degree in Occupational Studies prior to entering the Bachelor of Professional Studies program in either Culinary Arts or Baking and Pastry Arts, and students need to complete 132 credits to receive a bachelor's degree.

The courses illustrated in Table 19 were extracted from the curriculum and designated as management core classes. Human Resource Management, Introduction to Management, and Leadership and Ethics were placed in the leadership competency domain since "developing positive employee relations" and "understanding the role of the leader" and management topics including leadership, training, and problem solving are all components of Leadership. The Restaurant Law class relates to "compliance" which falls under the Interpersonal competency domain along with Introduction to Interpersonal Communication and Organizational Behavior which are both related to communicating effectively and problem-solving.

Accounting and Budget Management, Financial Management, and Controlling Costs and Purchasing Food are all related to managing expenses, controlling costs and the interpretation and evaluation of financial statements which would put these courses in the Administrative competency domain.

The 18-21 week required externship encompasses the application of technical skills in the kitchen so it would fall under the Technical competency domain.

The researcher attempted to confirm this placement with the Deans of the department by email and telephone, however, the Deans were not available to participate in discussing the survey findings.

Table 20

Comparative Culinary Arts Program 3

Conceptual	Leadership	Interpersonal	Administrative	Technical
Marketing	Human Resource	Employee Law	Accounting I	Internship
Quantity Food Production			Accounting II	(1,000 hours)
(Capstone)			Cost Control	Internship
			Beverage Management	(100-200 hours)
				Facilities Management

Comparative Culinary Arts program 3 was selected due to its affiliation with an established leading hospitality management program in the United States.

At comparative program/institution 3, students are required to complete 35 General Education credits, 15 Business and Social Science credits, 62 major core hospitality/culinary courses, 12 elective credits, and 3 internship credits which equals 127 total credits for a bachelor degree in the culinary arts.

The courses illustrated in Table 20 were extracted from the curriculum and designated as the management core courses. As indicated above, the Quantity Food Production falls under the Conceptual competency domain since it is a capstone course which integrates various levels of higher-thinking and integration of the other constructs. Human Resource management was placed in the Leadership competency domain since "developing positive employee relations and understanding the role of the leader" were descriptors for the Leadership competency domain.

Since Employee Law relates to "compliance" this was placed in the Interpersonal competency domain. Since the two internships would involve the application of "technical

skills" in the kitchen, this would fall within the Technical competency domain. Hospitality Accounting I and II, Cost Control and Beverage Management are related to "managing controllable expenses" which are descriptors for the Administrative competency domain.

The researcher spoke in detail with the curriculum contact/professor at Comparative 3 by telephone and corresponded by email for feedback and recommendations. Based on this information, Table 21 was revised based on these recommendations.

Table 21

Revised Comparative Culinary Arts Program 3

Conceptual	Leadership	Interpersonal	Administrative	Technical
Marketing	Human Resource	***Quantity Food Production***	Accounting I	Internship
Quantity Food Production		Employee Law	Accounting II	(1,000 hours)
(Capstone)			Cost Control	Internship
			Beverage Management	(100-200 hours)
	Quantity Food Production		***Quantity Food Production***	Facilities Management
				Quantity Food Production
				Food Science

The following changes were made by the curriculum contact/professor; the Quantity Food Production course was placed under all of the competency domains and the Food Science Course was added. Further discussion with the curriculum contact/professor indicated that since the Quantity Food Production was a capstone class, it encompassed all of the competencies falling under each of the competency domains. Food Science was initially not included within

the table, however, the curriculum contact/professor placed it under the Technical competency domain since Food Science is a discipline which involves the technical aspects of food.

Although comparative program/institution 3 does offer a variety of classes which encompass the administrative, technical and conceptual competencies, the course selection is limited for the Leadership and Interpersonal required courses. The highest mean scores on the survey of the practitioners and educators fell in the Interpersonal and Leadership competency domains respectively. However, comparative 3, offers only a Human Resource Class (Leadership competency domain) and an Employee Law class (Interpersonal competency domain). When the researcher discussed this with the curriculum contact, she acknowledged that the curriculum was currently being updated and that it did need to be revised significantly to meet the changing needs of industry.

Table 22

Comparative Culinary Arts Program 4

Conceptual	Leadership	Interpersonal	Administrative	Technical
Advanced Food Service Operations Management (capstone)	Food Service Management Systems and Human Resource Applications	Hospitality Law	Hospitality Accounting I	Internship 22 weeks
Career capstone	Hospitality Management Seminar	Communication Skills	Hospitality Accounting II	
Hospitality Strategic Marketing	Foundations of Leadership		Hospitality Financial Management	
			Introduction to Menu Planning and Cost Control	

At Comparative Culinary Arts program 4, students complete a 97 credit Associate in Science degree in Culinary in their first 2 years in the program. In the third and fourth years of study, students complete an additional 100 credits, for a total of 197 credits for the bachelor's degree.

The courses illustrated in Table 22 were extracted from the curriculum and designated as management core classes. The career capstone class and Hospitality Strategic Marketing entail strategizing and conceptual thinking, therefore they were placed in the conceptual competency domain. Food Service Management, Human Resource Management, Foundations of Leadership, and Hospitality Management Seminar were placed in the Leadership competency domain since they encompass skills relating to developing positive employee relations, leading and directing (management) and understanding the role of the leader.

Hospitality Accounting I, Hospitality Accounting II, Hospitality Financial Management, and Introduction to Menu Planning and Cost Control are all connected to interpreting and evaluating financial statements, budgeting, and cost control which would place these courses in the Administrative competency domain.

The Hospitality Law class relates to "compliance" which falls in the Interpersonal competency domain. The communication skills class focus is on effective interpersonal relations, therefore it was placed as well in the Interpersonal competency domain. The Internship program is the practical application of theory, and therefore would fall in the Technical competency domain.

The researcher spoke in detail with the curriculum specialist and he agreed with the assessment regarding the placement of the courses in the Conceptual Leadership, Interpersonal and Administrative competency domains.

However, the curriculum specialist communicated that the options detailed in Table 23 includes a study abroad, or a concentration of three to five courses in a hospitality-related area, or an 11 week internship are also available to students so that they can further develop their technical "hands-on" skills in the kitchen. This change is reflected in Table 23.

Table 23

Revised Comparative Culinary Arts Program 4

Conceptual	Leadership	Interpersonal	Administrative	Technical
Advanced Food Service Operations Management (capstone)	Food Service Management Systems and Human Resource Applications	Hospitality Law	Hospitality Accounting I	Internship 22 weeks
Career capstone	Hospitality Management Seminar	Communication Skills	Hospitality Accounting II	***Bachelor's Study Abroad 5-11 weeks or***
Hospitality Strategic Marketing	Foundations of Leadership		Hospitality Financial Management	***Concentration (3-5 courses in a hospitality-related area) or***
			Introduction to Menu Planning and Cost Control	***11 week internship***

Table 24

Comparative Culinary Arts Program 5

Conceptual	Leadership	Interpersonal	Administrative	Technical
Strategic Management	Human Resource Management	Business and Hospitality Law	Financial Accounting	Hospitality Development and Planning
Marketing Management for Services	Introduction to Hotel Operations	Organizational Behavior and Interpersonal Skills	Managerial Accounting	Hospitality Facilities Operations
	Introduction to Food Service Operations	Management Communication I	Hospitality Financial Management	Culinary Theory and Practice
	Service Operations Management	Management Communication II Micro computing	Finance	Internship
	Restaurant Management	Introduction to Information Systems Management	Hospitality Quantitative Analysis	

Comparative Culinary Arts program 5 was selected due to its affiliation with an established leading hospitality management program in the United States. Students earn a combined Associates Degree in Occupational Studies and a Bachelor of Science degree in Hotel Administration. This is a collaborative program which includes the culinary arts associate's degree component of one of the comparative schools, but the management core curricula required for the bachelor's portion is connected to an alternative culinary arts program.

The courses illustrated in Table 24 were extracted from the curriculum and designated as management core classes. As indicated, the Strategic Management and Marketing Management

for Services were placed in the Conceptual competency domain due to the "strategic" and planning component which are descriptors of the conceptual competency domain. Human Resource Management was placed in this category since "developing positive employee relations" encompasses human relation skills. Introduction to Hotel Operations, Introduction to Food Service Operations, and Restaurant Management incorporate planning and directing skills, and therefore are connected to the Leadership component of management.

Organizational Behavior and Interpersonal Skills, Management Communication I, and Management Communication II focus on human relations skills which would place these courses in the Interpersonal construct. Business and Hospitality Law relates to "compliance" which would also place this within this category. Financial Management, Managerial Accounting, Hospitality Financial Management, and Finance and Hospitality Quantitative Analysis encompass financial analysis and interpretation, cost analysis and budgeting which are all skills connected to Administration so therefore these courses were placed within the Administrative competency domain.

Hospitality Development and Planning and Hospitality Facilities Operations encompass technical kitchen "design" issues so therefore have been placed under the Technical competency domain. Culinary Theory and Practice and Internship, are the practical training component of the program so would be placed under the Technical competency domain.

The researcher did speak with the Director of the alliance program and she indicated that she agreed with the assessment and no changes needed to be made.

Summary

This study indicated that practitioners and educators considered the competencies pertaining to interpersonal skills to be the most important competency for students pursuing a bachelor's degree in the Culinary Arts, and considered the competencies pertaining to conceptual skills as the least important. Competencies falling under the technical competency domain ranked second to Interpersonal skills, since their means also fell between considerable importance to essential.

With the exception of the leadership competency domain, the data indicates that there is not a meaningful difference between the educators and practitioners indicating that they concur regarding the recommended core competencies that should be integrated into a bachelor degree in the Culinary arts.

The curriculum assessment indicated that most of the schools identified as highly-ranked in the industry did integrate some, but not all of the core competencies identified by the educators and practitioners as being of moderate importance to essential. All five of the comparative highly-ranked schools did have embedded into their curriculum a Human resource class, (Leadership) a law class, (Interpersonal) Financial Accounting (or Accounting I), (Administrative) Managerial Accounting, (Administrative) a Marketing class, (Conceptual) and an internship (Technical).

Key findings from the curriculum assessment of the comparative Culinary Arts programs indicated that comparative Culinary Arts programs 1 and 3 had only one course within the Interpersonal competency domain in contrast to comparative Culinary Arts program 5 which had five courses within the Interpersonal competency domain. It should be noted that although educators and practitioners rated interpersonal skills as the most essential competency, the

courses offered at comparative programs 1 and 3 are related to legal issues in the industry, versus communication and/or interpersonal relations. Although Leadership competencies were deemed to be of considerable importance, only comparative Culinary Arts program 2 and 4 offer a Leadership course. Although Administrative competencies were rated to be of considerable importance, comparative Culinary Arts programs 4 and 5 had between four and five courses in this competency domain, while the other comparative Culinary Arts programs had between one to three courses in the competency domain. All of the comparative culinary schools offered a senior capstone course, and also offered a culinary internship/externship.

Overall, most of the academic institutions identified did have the foundation for learning environments which provided students with the needed competencies to achieve success in an entry-level culinary arts manager trainee position in the culinary arts.

Chapter V

Summary, Conclusions and Recommendations

Study Overview

The passage of the Vocational Act of 1963, later amended by the Carl D. Perkins Vocational Education Act of 1984, was instrumental in broadening the definition of vocational education as well as expanding the delivery systems for vocational education. The increase in federal funding pursuant to the passing of the Vocational Education Act resulted in a domino effect on the development of secondary school programs in the culinary arts (Maclean, 2008). In 1973, the National Consortium of Competency Based Education, with its focus on skills, theory and evaluative processes contributed to a major shift in the culinary industry, away from the concept of cooking as a trade, vocation, or craft to cooking as a profession. Due to strong lobbying by the American Culinary Federation (ACF), in 1976 the United States Department of Labor upgraded its definition of chef from "domestic" to professional (ACF, n.d.).

This change created a profound impact within the industry leading to the better training of culinary professionals, and the improvement of education in the culinary arts. Post secondary culinary programs which offered culinary certificates and/or 2-year associate degrees were no longer deemed suitable for those individuals pursuing a leadership/management position in the culinary arts. The new demands placed on chefs called for a more intense training ground where higher-level leadership/administrative skills were integrated into the curriculum. The associate's degree was thought to lack the management core curriculum necessary for training students to be administrators and/or leaders in the field of the culinary arts.

Less than 25 years ago, only four culinary schools existed which offered associate degrees in the Culinary Arts. In the last decade, 229 Bachelor degree programs with a culinary arts component have emerged to meet the need for advanced culinary curricula and to meet the new demand for professional culinary training.

Unprecedented growth is estimated in the food-service industry in the next decade, with a resultant need for highly trained culinarians. A lack of standardization in core curricula, coupled with future estimates of growth in the food-service industry, means that there is a need for synergy between the academic programs and the culinary industry.

Although the number of bachelor degree programs has increased dramatically to meet the demand for culinary professionals, the literature fails to identify core competencies and/or recommended curricula which provide training in and produce the necessary skill-set of an entry-level culinary training manager.

The purpose of this study was to identify the core competencies needed in a bachelor's degree program that would appropriately prepare students for an entry-level managerial position in the culinary industry. According to Paulsen (2001), higher education has become extremely sensitive and accountable to industry needs, and learning should be closely tied to competencies and performance-based assessment. Since the Culinary Arts as a professional degree is still in its early stages of development, solicitation of industry input is critical in order to achieve standardization in the core curricula.

The five research questions this study addressed were: (a) What do culinary industry practitioners and educators' believe are the most important core competencies that should be integrated into a 4-year bachelor's degree program in the Culinary Arts to help students learn the

appropriate technical and professional skills necessary for success in the field? (b) Do industry practitioners and culinary educators (Beard foundation Professional members and ICHRIE members) differ in the recommended core competencies necessary for a bachelor's degree in the Culinary Arts? (c) To what extent are competencies deemed essential by industry professionals and educators embedded within the courses required by highly-ranked bachelor's degree programs in the culinary arts? The overarching research question that guides this study is: What are the recommended core courses for a 4-year bachelor's degree program in the Culinary Arts which includes the competencies suggested by industry practitioners and culinary educators and which mirror the existing core competencies in the five highest-ranked bachelor's degree programs in the Culinary Arts?

The first part of the study, the quantitative section, surveyed practitioners and educators to rank their perception of the importance of culinary manager trainee competencies. The sampling frame included the professional membership directory lists of the active members of the James Beard Foundation (JBF-culinary arts practitioners and chef owners) and the Council of Hotel, Institutional and Restaurant Educators International (ICHRIE- hospitality educators). The sample set of the JBF members (882) combined with the sample set of the ICHRIE members (741) resulted in the total sample of 1623 participants in this study. The survey contained demographic questions followed by a list of 40 job competencies where the respondents were asked to react to each competency item on the basis of its importance for entry-level culinary manager trainees, using a Likert scale based on the following; 1=essential; 2=considerable importance; 3=moderate importance; 4=limited importance; 5=no importance.

The statistical techniques utilized in this study to analyze the responses from the self-administered online survey included exploratory factor analysis and descriptive statistics

including frequencies, means, standard deviations, and tests of statistical significance. Specifically, independent-samples t-test, and a one-way ANOVA with post-hoc tests were employed to test for differences between the groups studied and then to further identify the differences within the subgroups.

The final sample of respondents (N=271) for this study surveyed included 155 educators and 116 practitioners. In the educator sample, there were 128 hospitality educators surveyed and 27 culinary educators. In the practitioners/owners sample, there were 52 chef practitioners and 64 chef owners. Due to the limited sample size, and the lack of available demographic statistical information from the professional organizations, it was not possible to execute a comparative analysis, therefore the possibility of response bias in this study remains an open issue.

The conceptual model and the foundation of this study was based on an integration of; an earlier competency study completed by Dr. Richard Tas, (1983) and the theoretical framework of Katz (1955) and Sandwith, (1993), discussions with a consulting team, and was guided by the core competencies deemed essential by the American Chef Federation (ACF) for industry certification of Certified Executive Chef (CEC).

The theoretical framework used in this study is extracted from Katz's Competency Domain Model, which was first published as early as 1955, in a Harvard Business Review article, "skills of an Effective Administrator." According to Katz, (1955) effective administration rests on three basic developable skills; technical, human, and conceptual skills with identifiable traits which are a key to understanding the administrative process. Katz's approach centered on the philosophy that the selection and development of administrators is

based not on what good executives are (their innate traits and characteristics), but on what they do (the kinds of skills which they exhibit in carrying out their jobs effectively) (Katz, 1955).

In 1993, Paul Sandwith, who explored managerial work by directly observing, recording and analyzing the activities of managers on the job expanded Katz's Competency Domain Model from three categories to five areas of managerial competency domains. Sandwith expanded Katz's three-prong model and developed the competency-domain model which comprised the following five areas, or domains, of managerial competency: Conceptual-creative (the cognitive skills needed for the job); Leadership (the ability to turn ideas into productive action); Interpersonal (skills for an effective interaction with others); Administrative (personal and financial management of the business); and Technical (the knowledge and skills essential to producing the product or service) (Tas, LaBrecque, & Clayton, 1996).

The 40 job competency statements were separated by the researcher and the consulting team into one of the five competency domains, and the respondents were asked to react to each competency item on the basis of its importance for entry-level culinary manager trainees, using a Likert scale based on the following: 1=essential; 2=considerable importance; 3=moderate importance; 4=limited importance; 5=no importance. As part of the statistical analysis, a comparison of the pre-survey (conceptual) and post-survey (empirical) results was done to determine whether the educators and practitioners categorized the competency statements similarly to the researcher and the panel of experts.

Research by Richard Tas in 1988 looked specifically at GM-trainee competencies from a hotel-industry perspective. The purpose of his study was to identify the most important competencies for hotel general-manager trainees (Tas, 1988). Although the competencies used by Tas will provide the foundation for the competencies used in this study, the researcher

enhanced the competencies to include competencies deemed essential by the American Chef Federation (ACF) for industry certification of Certified Executive Chef (CEC).

Tas's survey instrument, which contained 36 competency statements, was enhanced in the following manner: Incorporating Katz and Sandwich's conceptual framework, constructs were added which included interpersonal, conceptual, administrative, leadership, and technical domains. A team of experts was consulted to determine the appropriateness of Tas's competencies and to assist in developing the culinary component of the conceptual model. To mirror Tas's earlier work, a five-point rating scale was used to rate the degree of importance for each competency. Tas's original scale was rated according to the following criteria: 5=essential; extreme importance; 4= considerable importance; above average; 3=moderate importance; average importance; 2=limited importance; less-than-average importance; 1=no importance (Long, 1977). For this survey, 1=essential; extreme importance; 2=considerable importance; above average; 3-moderate importance; average importance; 4= limited importance; less-than-average importance; 5=no importance.

The second part of the study contains a curriculum assessment of the curricula of the five highly-ranked culinary arts programs in the United States. This assessment reviewed the following; the processes and criteria applied for selecting the top-ranked culinary arts programs, identification of the management courses embedded within the curriculum of each culinary school, and rationale for the placement of the courses within the theoretical framework based on the researcher's program evaluations and discussions with the Deans and/or curriculum specialists at each of the culinary schools.

Limitation

The final sample of respondents (N=271) for this study included 155 educators and 116 practitioners. In the educator sample, there were 128 hospitality educators surveyed and 27 culinary educators. In the practitioners/owners sample, there were 52 chef practitioners and 64 chef owners. The sample size of culinary educators (27) is extremely small and may not be a true representation of culinary educators. The sample of chef practitioners (52) and chef owners (64) is also very small and may not represent an adequate sample size for comparative purposes..

JBF only represents one portion of culinary chefs and owners. The practitioners/owners sample is exclusive to only those individuals that are members of JBF and therefore may be excluding a significant portion of culinary professionals. Chef practitioners and owners may be generally less inclined to respond to surveys due possibly to a lack of familiarity with the process, or time constraints, as compared to their colleagues in academia who are more familiar with and oriented towards these processes and therefore more inclined to respond. The survey, administered completely online, may have been inhibited by these factors.

Summary of Findings

Practitioners and educators considered the competencies pertaining to interpersonal skills to be the most important aptitudes for students pursuing a bachelor's degree in the Culinary Arts, and considered the competencies pertaining to conceptual skills to be the least important. The respondents which included the combined group of practitioners and educators had combined mean and standard deviation ratings as follows: Interpersonal competencies (M=1.3434, SD=.40058), Technical competencies (M=1.6662, SD=.59959), Leadership competencies

(M=1.7954, SD=.62148), Administrative competencies (M=1.9129, SD=.63484), and the Conceptual competencies (M=2.3369, SD=.75374).

The findings indicated that practitioners and educators rated competencies falling under the Interpersonal construct closest to essential and therefore the most important core competencies. Practitioners rated interpersonal competencies at (M=1.3404, SD = .37532) and educators rated interpersonal competencies at (M=1.3456, SD = .41918). Practitioners rated technical competencies at (M=1.6500, SD=.62092) and educators rated technical competencies (M=1.6779, SD=.58629). Since practitioners and educators rated the interpersonal and technical competencies the highest of the five competency domains and since their means fall between considerable importance to essential, an assumption can be made that courses which have these competencies embedded within them should be included in the core curriculum for a bachelor degree program in the culinary arts.

In addition to having the highest mean score of the five competency domains, the range for interpersonal competencies ranges from moderate to essential importance, in contrast to the Administrative, Leadership, Conceptual and Technical constructs which range from limited importance to essential importance.

The significance of the findings comparing the educators and practitioners is that the perceptions of the two groups in regard to core competencies are notably similar indicating the lack of a significant variance. The only slight variance between the practitioners and educators was in the leadership construct at (1.675) and (1.8783) respectively.

To analyze the differences in the leadership construct, a t-test was performed which indicated that the practitioners rated two competency statements within the leadership construct

as being more important than educators. Specifically, "understands the role of the leader within the company culture" and "has the ability to develop leadership in others" was rated by chef owners/practitioners as more essential than as rated by the educators. For this question, practitioners rated it 1.46 (closer to essential than considerable importance) versus the educators who rated it 1.77 (closer to considerable importance than essential).

The second leadership competency statement, "understands and practices total quality management" was also rated by chef owners/practitioners as more essential than the educators. For this question, practitioners rated it at (1.63) – between essential and considerable importance versus the educators who rated it at 2.17 in the ranking which is considerable importance.

To test for differences within the subgroups, a one-way ANOVA was used to identify the specific differences among the four subgroups of the practitioners and educators. Specifically, a one-way ANOVA was used to test for preference differences between the practitioners (chef practitioners and chef owners) and the educators (hospitality educators and culinary educators) followed by post-hoc tests to determine where these differences lie within the subgroups.

The ANOVA indicates that rankings related to the Administrative and Leadership competencies are significantly different in means among the four professional groups. Administrative competence differed significantly across the four subgroups [F (3,221) =3.5, p=.016]. Leadership competence also differed significantly across the four subgroups, [F (3,231) = 4.2, p=.006].

To identify the specific areas of disparity, the individual competency statements in the leadership and administrative competency domains were analyzed and it was determined that the differences lie in the following competency statements embedded within the leadership and

administrative constructs. For the leadership construct, there was a statistically significant variance between the four professional groups for the following leadership competency statements; "has the ability to manage diversity through leadership-ensures compliance with EOE and affirmative action;" " understands the role of the leader within the company culture and has the ability to develop leadership in others;" "creates a shared vision with team members through the process of empowerment" and "understands and practices total quality management."

For the administrative competency domain, there was a statistically significant variance between the four professional subgroups of the educators and practitioners for the following administrative competency statements: " analyzes past and present business information to effectively predict future market strategies;" "ability to analyze and interpret daily, weekly, monthly, and annual financial and statistical reports;" "make sound financial decisions to improve operational efficiency;" "provides incentives to build awareness of maintaining an accident free work environment." The post-hoc tests indicated that in the Administrative competency domain, there was a statistically significant variance between the ratings of the administrative competency statements given by the Chef Owner and Chef Practitioner subgroups. Tukey Post-Hoc comparisons of the four subgroups on the leadership competency domain indicated that the Hospitality Educator group was significantly different from the Chef Practitioner group.

The Conceptual, Interpersonal and Technical competency domains for the four subgroups were not significant at $p<.05$. The post-hoc tests indicated that for the Conceptual, Interpersonal and Technical competencies, there is not a statistically significant variance between the four

subgroups indicating that perception of the four groups within the practitioner and educator groups, are comparable.

Curriculum Assessment

Based on criteria employed in the *US News and World Report* Rankings, which resembles those used in peer reviewed journals, the researcher explored the criteria and selected four measures for determining the five highly-ranked bachelor degree programs in the culinary arts for curriculum assessment purposes which included: Reputation/peer assessments, graduation placement, retention rates, and faculty resources. The goal of the assessment was to identify the management core courses embedded within the curricula of each school, connect the courses to the competency domains from the survey and then to determine whether each school did have management courses which encompassed the competencies deemed moderate to essential based on the survey results. To maintain anonymity, the five schools were identified as Comparative, 1, 2,3, 4, and 5.

The curriculum assessment indicated that most of the schools identified as highly-ranked in the industry did integrate some, but not all of the core competencies identified by the educators and practitioners as being of moderate importance to essential. Each of the five comparative highly-ranked schools did have embedded into their curriculum a Human resources class, (Leadership) a law class, (Interpersonal) Financial Accounting (or Accounting I), (Administrative) Managerial Accounting, (Administrative) a Marketing class, (Conceptual) and an internship (Technical).

Overall, most of the academic institutions identified appeared to have the foundation for learning environments which provided students with the needed competencies to achieve success in an entry-level managerial position in the culinary arts.

Connection to 1983 Hotel Manager Trainee Competency Study

The 1983 survey conducted by Dr. Richard Tas was used as the foundation for this study and the survey instrument was enhanced to incorporate competencies specific to the culinary industry. Although his study was completed over 25 years ago, the six competencies that were identified in Tas' study as being essential centered on human relation skills. Similarly, this survey which included the responses of 271 educators and practitioners identified interpersonal skills as the most essential competency.

The Theoretical Framework - The Competency Domain Model

Katz's competency domain model, the theoretical framework for this study determined that for a supervisor to be effective, the human skill must be naturally developed and unconsciously, as well as consistently, demonstrated in the individual's every action (Katz, 1955). According to Katz (1955), at the lower levels of administrative responsibility, the principal need is for technical and human relation skills.

The survey findings support this as indicated that at the lower levels of administrative responsibility, the principal need is for technical and human relation skills. This matched the survey findings that ranked Interpersonal and Technical skills as the highest rated competencies. The ability to be sensitive to the needs and to be able to work and motivate others in the workplace is and has been the most important competency that an aspiring manager must possess. As one moves up the organizational chain, the need for human skill becomes

proportionately less. Conceptual skill becomes increasingly more important with the need for policy decisions and broad-scale action. The human skill of dealing with the individuals becomes subordinate to the conceptual skill of integrating group interest and activities into a coordinate whole (Katz, 1955).

This ties in with the survey findings in that both educators and practitioners rated conceptual skills as the lowest of the five competencies. Although they indicated that these stills were important, the findings provide evidence that they perceived the human and technical skills as paramount for an entry-level manager and perceived the conceptual skills, as also important, but most likely considered that as the entry-level managers move up the career ladder and take the necessary professional moves to achieve an Executive Chef position, these skills would be integrated.

Industry Practitioner and Educator ratings of Core Competencies

Industry practitioners and culinary educators (Beard Foundation Professional members and ICHRIE members) rated the competencies within the Interpersonal, Technical, Administrative. and Conceptual constructs similarly, rating each of these core competencies between considerable importance to essential. There was a slight variance between the practitioners' and the educators' ratings of the leadership skills, and both groups rated conceptual skills as the lowest of the five constructs, however still between moderate to considerable importance. The mean scores from the survey responses for the Leadership and Administrative competencies (moderate to essential importance) indicates that industry practitioners and educators perceive leadership and administrative competencies as extremely important skills for aspiring managers, despite the early emergence of the culinary arts as a vocation.

The post-hoc tests indicated a statistically significant variance between the chef owners and the chef practitioners in the competencies pertaining to administrative responsibilities. Specifically, in regard to the competencies pertaining to marketing strategy, financial decision-making and an accident free environment, there was a disparity between the chef owners and chef practitioners. This may indicate that working chefs may still be perceived by owners as technical "hands-on" operators in contrast to chef practitioners perceiving their role as administrative versus operational.

A similar disparity is also evident in the competencies pertaining to leadership responsibilities. Specifically, in regard to the competencies pertaining to diversity, the leadership role, empowerment and total quality management, there was a statistically significant variance between the hospitality educators and chef practitioners. This may indicate that hospitality educators may still perceive chefs in a supervisory versus a managerial/leadership role.

The greatest variance between mean scores was amongst the chef practitioners and chef owners. Specifically, on the Administrative competency, the Chef Owners perceived the administrative skill set to be less important than the chef practitioner group. Also, the Hospitality Educator group perceived the Leadership competencies to be less significant than the Chef Practitioner group. For many years, culinary skills were seen purely as vocational skills which did not carry any type of management accountability. This has changed in recent years, but as the analysis indicates, the role of the chef practitioner as an administrator and leader is not perceived as essential.

Overarching research question

What is the recommended curriculum for a 4-year bachelor degree program in the Culinary Arts which includes the core competencies suggested by industry practitioners and culinary educators and mirrors the existing core curriculum content areas in the five highly-ranked bachelor degree program in the Culinary Arts?

Recommendations

In the following section, the recommended types of courses for each competency domain which should be considered for inclusion in a culinary arts degree program are identified. The recommended types of courses were; identified by industry practitioners and educators as moderate to essential and were also identified as core curricula at five highly-ranked culinary arts degree programs. The recommended types of courses fulfilling this criteria are detailed below.

Conceptual Competency Domain

The series of competencies within the conceptual competency domain were rated by practitioners and educators as ranging from moderate to considerable importance, and had the lowest mean rating of the five competency domains. All of the five highly-ranked culinary arts programs had either a Senior project/capstone class and/or a strategic Marketing/Management class. The capstone classes incorporated coursework from management, finance, economics, and marketing, and other disciplines and challenged students to be conceptual thinkers, typically culminating in the creation of a strategic marketing and/or business plan.

Interpersonal Competency Domain

The series of competencies within the Interpersonal competency domain were rated by practitioners and educators as essential and had the highest mean rating of the five competency

domains. Each of the five highly-ranked culinary arts programs had classes which incorporated interpersonal competencies, but the culinary arts programs perceived with the strongest reputations offered several courses in interpersonal relations, including courses in Interpersonal relations, Communications and Organizational Behavior in addition to courses addressing Legal issues in the hospitality/culinary industry and classes in Information Systems.

Leadership Competency Domain

The series of competencies within the leadership competency domain were rated by practitioners and educators as being of considerable to essential importance. All of the five highly-ranked culinary arts programs had a Human Resources class in the curricula. Each of the five highest-ranked culinary arts programs had classes which incorporated leadership competencies and included classes such as Leadership and Ethics and Hospitality Operations Management courses.

Administrative Competency Domain

The series of competencies within the administrative competency domain were ranked by both practitioners and educators as being closer to the criteria of "considerable importance" than essential. All of the five highly-ranked culinary arts programs had Accounting I and Accounting II classes in the curricula. The culinary arts programs perceived with the strongest reputations had more extensive required classes such as Finance, Financial Management, Menu Planning and Cost Control and Hospitality Quantitative Analysis

Technical Competency Domain

The series of competencies within the technical competency domain were rated by practitioners and educators as the second most important following the interpersonal

competency, and were rated from considerable to essential importance. All of the five highly-ranked culinary arts programs had either a Culinary Internship, Externship, or Practicum type of experiential course. The culinary arts programs perceived with the strongest reputations also had additional classes including Hospitality Development and Planning and Hospitality Facilities Operations within the curricula.

Competencies and Curriculum Development

As indicated by the curriculum assessment, the five most highly-ranked schools each had at least one of the highest level competencies as determined by industry practitioners and educators embedded within the curriculum. All of the five schools had Conceptual, Administrative, Leadership, Interpersonal, and Technical courses which aligned with the competencies.

Based on the survey findings, it is recommended that culinary arts bachelor degree programs incorporate a minimum of two of the more highly rated competency classes within their core management curricula requirements. Incorporating the competencies identified in this study will enable faculty and administrators to develop a curriculum which ensures that academia connects industry and educator needs. Utilizing the results of this study as a foundation for improving current and designing new curricula will ensure that students are exposed to courses, competencies and experiences deemed important by culinary educators and practitioners. It is the responsibility of academia to integrate competencies into their pedagogy which align with industry needs and produce graduates that are industry ready. Such consistency in core competencies will help aspiring culinarians receive cutting-edge industry training and education, at the technical and conceptual level which serve to mirror the demands of the industry today as well as prepare students for a professional career in the culinary industry.

Advisory Boards

It is recommended that all schools consider instituting an advisory board comprised of members from industry, alumni and influential culinary professionals to stay abreast of industry's changing needs, and to ensure that the curriculum is updated so that graduates have exposure to the competencies, and knowledge base to ensure their success in the industry.

It is this familiarity with what employers require of graduates and the connection to skills needed in the workplace that will play a pivotal role for institutional researchers and academia in the foreseeable future (Paulsen, 2001). Faculty should be held accountable for soliciting industry input in an effort to build a solid curriculum which connects industry and educator needs so that entry-level managers are industry ready with the skill set and knowledge base for a leadership position in the culinary industry.

As the job description for the professional chef is encompassing a greater amount of leadership and administrative skills, industry interaction is critical to ensuring that academia integrates the standards and guidelines so that students receive cutting-edge industry training and education to prepare students for a professional career in the culinary industry.

Broader Implications of survey findings for professional education

Similar to the Culinary Arts emergence as a vocation, other professional areas of education such as Nursing and Optometry have moved from a 2-year associates degree to a 4-year bachelor degree program. Similarly, these vocational programs have incorporated leadership and administrative courses into their curriculum. Other emerging vocational/technical programs may use the survey findings to identify needed management courses recommended by industry veterans to supplement vocational training. The leadership/administrative skills identified are

not exclusive to the culinary arts, but inclusive to other areas of vocational/professional education.

Recommendation for Future Research

Qualitative Analysis – Competencies/Curriculum

The survey results of the practitioners and educators identified the competencies perceived to be essential and the curriculum assessment indicated whether these competencies were embedded within the curricula of the five highly-ranked culinary arts programs. A more in-depth analysis which involved a survey of students upon completion of the culinary arts coursework may indicate whether the competencies/student learning outcomes were actually embedded within the culinary arts courses. Concurrently, conducting a study which contains a detailed analysis of the syllabi and course objectives supplemented by interviews with the faculty could further shed light on whether the pedagogical and evaluative processes used for each course were resulting in the learning outcomes detailed in the course syllabi.

Standardization and Analysis of accreditation processes

Although the ACF has been the pioneer in certification and apprenticeship programs, it is not mandatory for culinary schools to obtain ACF certification. As indicated in the curriculum assessment, there were inconsistencies evident within the curriculum of the five highly-ranked culinary schools. Specifically, there were inconsistencies between the integration of the management competencies/courses deemed as moderate to essential within the core curricula at the top-ranked culinary schools.

Standardization and consistency within the management curricula of bachelor degree programs in the culinary arts may be worthwhile so that the management core curriculum more

closely resembles the curriculum proposed by industry veterans. Should there be a culinary arts management certification and/or accreditation process which is mandatory for all bachelor degree culinary arts programs? Culinary arts is an emerging field, and this type of uniformity and standardization may prove beneficial for the long-term. Considering to partnering with other instrumental industry associations such as the National Restaurant Association, and/or unifying criteria for certification may prove beneficial for the long-term.

Response Rate – Additional sampling

The response rate of the chef owners (27) was extremely low and this may have not been representative of the industry. Broadening this sample, by attending a culinary convention and/or by receiving additional support from the ACF or JBF may serve to enhance the study results. Throughout the year, there are regional/national conventions where access to culinarains may be more readily available than via an online survey.

It may prove worthwhile to sample the ACF members and compare these results with the results of the JBF members. This comparison may shed light on additional competencies that may be deemed moderate to essential for inclusion within an additional survey.

Explore the variances between the Educators and Practitioners and within the Subgroups

The survey findings indicated that the practitioners and educators were in agreement on the majority of the competencies, with the exception of the competencies connected to the leadership construct. Specifically, the variance between the two groups were related to understanding the role of the leader within the company culture, the ability to develop leadership, and the ability to understand and practice total quality management. The chef owners/practitioners group rated these competencies as more essential than the educators.

An analysis of the subgroups indicated a statistically significant variance on the administrative and leadership constructs for the chef owners and chef practitioners, and the chef practitioners and the hospitality educators. Additional research into the educators and practitioners and the subgroups may prove worthwhile in identifying why the gap currently exists and may provide opportunities for exploring the contributing factors and/or solutions for lessening this gap.

Comparative-Longitudinal Study

Discussions with several of the Deans at the highly-ranked culinary bachelor degree programs indicated that they interact with industry twice a month to ensure that they stay abreast of industry changes to ensure that the curriculum appropriately reflects this. A comparative-longitudinal study tracking students attending a school which is integrally involved with industry versus a school with minimal industry interaction could uncover whether this relationship with industry has a direct positive impact on the success rate of the students/graduates.

Transfer of Administrative skills to Other Professional Fields of Study

A comparative study of culinary arts and other emerging vocational training programs may prove worthwhile for identifying the management/leadership courses embedded within the different programs to determine whether the similarities and differences between the core curricula classes and whether the leadership/administrative and management courses identified are transferable between the different programs.

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APPENDIX A: Richard Tas 1983 Survey Instrument

Richard Tas 1983 Survey Instrument

HOTEL MANAGER TRAINEE COMPETENCIES INVENTORY

Directions: Please indicate with a checkmark (V) the level of importance of each competency statement for entry-level hotel manager trainees.

Competency Statements - Level of Importance

1. Develops work flow patterns to meet specific operational requirements.
2. Uses past and current information to predict future departmental revenues and expenses.
3. Follows established personnel management procedures in supervision of employees.
4. Manages guest problems with understanding and sensitivity.
5. Demonstrates professional appearance and poise.
6. Uses past and current information to predict future hotel reservations.
7. Effectively manages life threatening situations such as fire, bomb threat, serious illness, etc.
8. Uses front office equipment, such as electronic cash registers, point-of sale devices and reservation systems effectively.
9. Maintains professional and ethical standards in the work environment.
10. Assists in operational and strategies planning.
11. Assists in the development and maintenance of budgets for each important element of the organization.
12. Conducts an informative and valid interview with prospective employees.
13. Analyzes weekly, monthly, and annually financial and statistical reports.
14. Strives to achieve positive working relationship with employees based on perceptions of work interactions.
15. Motivates employees to achieve desired performance.
16. Possesses needed leadership qualities to achieve organizational objectives.
17. Assists in establishing organizational objectives and their priority.
18. Appraises employee performance.
19. Develops positive customer relations.
20. Processes hotel arrivals and departures.
21. Promotes a cooperative union-management relationship.

22. Follows federal, state, and local sanitation and safety regulations to insure compliance by the organization.

23. Assists in the development and control of departmental employee productivity.

24. Inspects cleaned hotel rooms according to standard operating housekeeping procedures.

25. Analyzes past and present business information to effectively predict future marketing strategies.

26. Delegates responsibility and authority to personnel according to departmental objective(s).

27. Communicates effectively both written and orally.

28. Prepares weekly, monthly, and annual financial statistical reports.

29. Manages employee grievances effectively.

30. Knowledgeable of personnel policies and procedures which govern supervisory activities.

31. Knowledgeable of personnel policies and procedures which govern supervisory activities.

32. Follows the legal responsibilities associated with hotel operations.

33. Assists in the development of an effective energy management program.

34. Identifies operational problems.

35. Develops reliable revenue and expense tracking systems.

36. Assists in the development of a balanced program of preventative security.

APPENDIX B: Gersh 2009/2010 Survey Instrument

Gersh 2009/2010 Survey Instrument

Culinary Manager Trainee Competencies

1-7 – Demographic data

8. Assists in operational and strategic planning

9. Assists in the development and maintenance of budgets to ensure that labor costs and controllable costs are within budgetary projections and industry standards.

10. Participates in the development and implementation of a marketing plan by assisting the Executive Chef in identifying customer demographics and market trends.

11. Possesses an entrepreneurial mindset to apply to operational demands. (thinks like an owner)

12. Assists in the development and execution of the annual business plan

13. Develops solutions after identifying organizational and/or operational problems.

14. Assists in the analysis and interpretation of customer demographics to identify market trends for menu development.

15. Assists in establishing organizational objectives and their priorities and possesses the needed leadership qualities to achieve the organizational objectives.

16. Delegates responsibility and authority to personnel according to departmental objectives.

17. Has the ability to manage diversity through leadership-ensures compliance with EOE and Affirmative Action.

18. Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees.

19. Demonstrates professional appearance, poise and ethical standards in the work environment.

20. Operates effectively and calmly under pressure or in crisis situations.

21. Demonstrates positive customer relations – manages guest problems with understanding and sensitivity

22. Understands the role of the leader within the company culture and has the ability to develop leadership in others.

23. Promotes a cooperative union-management relationship and manages employee grievances effectively, if applicable.

24. Understands all Human Resources responsibilities and assists in the development of job specifications and job descriptions.

25. Possesses appropriate technical skills set in all kitchen areas

26. Has adequate product knowledge regarding availability, seasonality, and purchasing of food and beverages

27. Follows federal, state and local sanitation and safety regulations to ensure compliance by the organization

28. Assists in the development and control of departmental employee productivity

29. Analyzes past and present business information to effectively predict future marketing strategies.

30. Ability to analyze and interpret daily, weekly, monthly, and annual financial and statistical reports, and make sound financial decisions to improve operational efficiency.

31. Communicates effectively both written and orally

32. Develops work schedules to meet specific operational requirements

33. Computer literate

34. Ability to effectively balance the administrative functions with operational requirements

35. Has adequate product knowledge regarding availability, seasonality and purchasing of food and beverages

36. Practices effective menu management and incorporates effective production management processes to ensure cross utilization and quality production

37. Maintains a basic knowledge of equipment functioning and maintenance

38. Ability to balance the menu in relation to the physical layout of the kitchen

39. Ability to build creativity into the menus while maintaining standardized recipes and procedures-can make revisions when necessary.

40. Provides incentives to build awareness of maintaining an accident free work environment.

41. Follows federal, state, and local sanitation and safety regulations to ensure compliance by the organization-certified in servsafe.

42.Ensures that all processes comply with HACCP-ability to institute appropriate protocol for food borne illness outbreak

43. Creates a shared vision with team members through the process of empowerment.

44. Ability to develop professional goals and action plans to achieve career objectives for self and staff

45. Understands and practices total quality management

46. Maintains a position of chef as "coach" and team leader

47. Effectively manages controllable expenses relative to the areas of responsibility

48. Ability to interpret ratios and trends to ensure operational efficiency and productivity

49. Ability to participate in the recruiting, hiring, orientation, training, and evaluative performance process of employees.

50. Are there any other competencies that you believe are essential or of considerable importance which should be included in a Culinary Arts Bachelor Degree?

APPENDIX C: Conceptual Model for Culinary Manager Trainee Competencies – Pre-Survey

Conceptual	Leadership	Interpersonal	Administrative	Technical
Assists in the development and execution of the annual business plan	Delegates responsibility and authority to personnel according to departmental objectives	Communicates effectively both written and orally	Assists in the development and control of departmental employee productivity	Has adequate product knowledge regarding availability, seasonality, and purchasing of food and beverages
Participates in the development and implementation of a marketing plan by assisting the Executive chef in identifying customer demographics and market trends	Has the ability to manage diversity through leadership-ensures compliance with EOE and Affirmative Action	Creates a shared vision with team members through the process of empowerment	Analyzes past and present business information to effectively predict future marketing strategies	Possesses appropriate technical skills set in all kitchen areas
Assists in the development and maintenance of budgets to ensure that labor costs and controllable costs are within budgetary projections and industry standards	Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees.	Understands and practices total quality management	Ability to analyze and interpret daily, weekly, monthly, and annual financial and statistical reports, and make sound financial decisions to improve operational efficiency	Maintains a basic knowledge of equipment functioning and maintenance
Assists in operational and strategic planning	Understands the role of the leader within the company culture and has the ability to develop leadership in others	Ability to develop professional goals and action plans to achieve career objectives for self and staff	Develops work schedules to meet specific operational requirements	Ability to balance the menu in relation to the physical layout of the kitchen
Possesses an entrepreneurial mindset to apply operational demands (thinks like an owner)	Assists in establishing organizational objectives and their priorities and possesses the needed leadership qualities to achieve the organizational objectives	Maintains a position of chef as "coach" and team leader	Ability to effectively balance the administrative functions with operational requirements	Practices effective menu management and incorporates effective production management processes to ensure cross utilization and quality production

Conceptual	Leadership	Interpersonal	Administrative	Technical
Develops solutions after identifying organizational and/or operational problems	Promotes a cooperative union-management relationship and manages employee grievances effectively, if applicable	Demonstrates professional appearance, poise, and ethical standards in the work environment	Maintains a position of chef as "coach" and team leader	Follows federal, state, and local sanitation and safety regulations to ensure compliance by the organization-certified in servsafe
Assists in the analysis and interpretation of customer demographics to identify market trends for menu development	Understands all human resource responsibilities and assists in the development of job specifications and job descriptions	Demonstrates positive customer relations-manages guest problems with understanding and sensitivity	Effectively manages controllable expenses relative to the areas of responsibility	Ensures that all processes comply with HACCP-ability to institute appropriate protocol for food borne illness outbreak
	Operates effectively and calmly under pressure or in crisis situations		Ability to interpret ratios and trends to ensure operational efficiency and productivity	Ability to build creativity into the menus while maintaining standardized recipes and procedures-can make revisions when necessary
			Ability to participate in the recruiting, hiring, orientation, training, and evaluative performance process of employees.	Provides incentives to build awareness so staff maintains an accident free work environment
			Computer literate	

APPENDIX D: SURVEY RESULTS

1. 1. Specify your current professional career

	Response Percent	Response Count
Authors	0.0%	0
Restaurant Owners	0.0%	0
Other	0.0%	0
Hospitality educator	**47.2%**	**128**
Culinary educator	10.0%	27
Chef practitioner	19.2%	52
Chef owner	23.6%	64
answered question		**271**
skipped question		**0**

2. 2. Specify the number of years of work experience you have had in the hospitality/culinary industry.

	Response Percent	Response Count
0-5	10.7%	29
6-10	14.4%	39
11-15	14.4%	39
16-20	15.2%	41
21 + years	**45.2%**	**122**
answered question		**270**
skipped question		**1**

3. 3. Gender

	Response Percent	Response Count
Female	36.1%	95
Male	**63.9%**	**168**
answered question		263
skipped question		8

4. 4. Please specify your highest educational credentials

	Response Percent	Response Count
Associate's Degree	19.5%	49
Bachelor's Degree	24.7%	62
Master's Degree	24.3%	61
Doctoral Degree	**31.5%**	**79**
answered question		251
skipped question		20

5. 5. What is your country of origin?

	Response Percent	Response Count
United States	**69.0%**	**185**
Non United States	31.0%	83
answered question		268
skipped question		3

6. 6. What is your marital status?

	Response Percent	Response Count
Single	20.8%	56
Married	74.0%	199
Divorced	5.2%	14
Widow/Widower	0.0%	0
answered question		269
skipped question		2

7. 7. If you have children, how many children do you have?

	Response Percent	Response Count
0	32.9%	85
1	22.1%	57
2	29.5%	76
3	12.4%	32
4	1.9%	5
5+	1.2%	3
answered question		258
skipped question		13

Ranking of Mean Scores from Educator and Practitioner Survey

8. Please select the choice that indicates the level of importance of each competency statement for entry-level culinary managers.

	Essential	Considerable Importance	Moderate Importance	Limited Importance	No Importance	Rating Average	R
8. Assists in operational and strategic planning	20.1% (47)	26.9% (63)	**32.5% (76)**	17.5% (41)	3.0% (7)	2.56	
9. Assists in the development and maintenance of budgets to ensure that labor costs and controllable costs are within budgetary projections and industry standards	32.3% (76)	**33.2% (78)**	20.0% (47)	11.1% (26)	3.4% (8)	2.20	
10. Participates in the development and implementation of a marketing plan by assisting the Executive chef in identifying customer demographics and market trends	13.7% (32)	27.0% (63)	**35.2% (82)**	19.7% (46)	4.3% (10)	2.74	
11.Possesses an entrepreneurial mindset to apply operational demands (thinks like an owner)	32.3% (76)	**41.3% (97)**	17.4% (41)	8.1% (19)	0.9% (2)	2.04	
12.Assists in the development and execution of the annual business plan	18.7% (44)	**33.2% (78)**	31.5% (74)	12.3% (29)	4.3% (10)	2.50	
13.Develops solutions after identifying organizational and/or operational problems	38.9% (91)	**41.0% (96)**	15.0% (35)	4.7% (11)	0.4% (1)	1.87	
14.Assists in the analysis and interpretation of customer demographics to identify market trends for menu development	18.0% (42)	32.2% (75)	**32.6% (76)**	11.6% (27)	5.6% (13)	2.55	
15.Assists in establishing organizational objectives and their priorities and possesses the needed leadership qualities to achieve the organizational objectives	24.7% (58)	**40.0% (94)**	26.4% (62)	8.9% (21)	0.0% (0)	2.20	
16.Delegates responsibility and authority to personnel according to departmental objectives	**40.6% (95)**	36.3% (85)	16.2% (38)	6.0% (14)	0.9% (2)	1.90	
17.Has the ability to manage diversity through leadership-ensures compliance with EOE and affirmative action	**48.7% (114)**	31.6% (74)	14.1% (33)	4.3% (10)	1.3% (3)	1.78	
18.Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees	**67.7% (159)**	24.7% (58)	6.0% (14)	1.3% (3)	0.4% (1)	1.42	
					answered question		
					skipped question		

9. Please select the choice that indicates the level of importance of each competency statement for entry-level culinary managers.

	Essential	Considerable Importance	Moderate Importance	Limited Importance	No Importance	Rating Average	R
19. Demonstrates professional appearance, poise, and ethical standards in the work environment	**80.0% (180)**	18.2% (41)	1.8% (4)	0.0% (0)	0.0% (0)	1.22	
20. Operates effectively and calmly under pressure or in crisis situations	**75.6% (170)**	22.7% (51)	1.8% (4)	0.0% (0)	0.0% (0)	1.26	
21. Demonstrates positive customer relations-manages guest problems with understanding and sensitivity	**70.5% (158)**	26.8% (60)	2.2% (5)	0.4% (1)	0.0% (0)	1.33	
22. Understands the role of the leader within the company culture and has the ability to develop leadership in others	**50.4% (113)**	36.2% (81)	12.5% (28)	0.9% (2)	0.0% (0)	1.64	
23. Promotes a cooperative union-management relationship and manages employee grievances effectively,if applicable	31.4% (69)	**42.3% (93)**	17.3% (38)	6.4% (14)	2.7% (6)	2.07	
24. Understands all human resource responsibilities and assists in the development of job specifications and job descriptions	26.8% (60)	**38.8% (87)**	28.6% (64)	4.9% (11)	0.9% (2)	2.14	
25. Possesses appropriate technical skills set in all kitchen areas	**61.9% (138)**	26.9% (60)	9.9% (22)	0.9% (2)	0.4% (1)	1.51	
26. Has adequate product knowledge regarding availability, seasonality, and purchasing of food and beverages	**58.9% (132)**	33.0% (74)	7.6% (17)	0.4% (1)	0.0% (0)	1.50	
27. Follows federal, state and local sanitation and safety regulations to ensure compliance by the organization	**77.2% (173)**	17.9% (40)	4.5% (10)	0.4% (1)	0.0% (0)	1.28	
28. Assists in the development and control of departmental employee productivity	40.0% (88)	**40.5% (89)**	17.7% (39)	1.4% (3)	0.5% (1)	1.82	
29. Analyzes past and present business information to effectively predict future marketing strategies	20.2% (45)	**35.9% (80)**	25.6% (57)	14.3% (32)	4.0% (9)	2.46	
					answered question		
					skipped question		

10. Please select the choice that indicates the level of importance of each competency statement for entry-level culinary managers.

	Essential	Considerable Importance	Moderate Importance	Limited Importance	No Importance	Rating Average	R
30. Ability to analyze and interpret daily, weekly, monthly, and annual financial and statistical reports, and make sound financial decisions to improve operational efficiency	35.0% (78)	**38.1% (85)**	18.8% (42)	6.7% (15)	1.3% (3)	2.01	
31. Communicates effectively both written and orally	**70.6% (156)**	25.8% (57)	3.6% (8)	0.0% (0)	0.0% (0)	1.33	
32. Develops work schedules to meet specific operational requirements	**51.4% (113)**	39.1% (86)	8.6% (19)	0.5% (1)	0.5% (1)	1.60	
33. Computer literate	**58.1% (129)**	30.2% (67)	10.8% (24)	0.9% (2)	0.0% (0)	1.55	
34. Ability to effectively balance the administrative functions with operational requirements	**41.9% (93)**	41.0% (91)	15.8% (35)	0.5% (1)	0.9% (2)	1.77	
35. Has adequate product knowledge regarding availability, seasonality and purchasing of food and beverages	**60.8% (135)**	30.6% (68)	8.1% (18)	0.5% (1)	0.0% (0)	1.48	
36. Practices effective menu management and incorporates effective production management processes to ensure cross utilitization and quality production	**45.3% (101)**	40.4% (90)	11.7% (26)	2.2% (5)	0.4% (1)	1.72	
37.Maintains a basic knowledge of equipment functioning and maintenance	**44.6% (99)**	40.1% (89)	14.0% (31)	1.4% (3)	0.0% (0)	1.72	
38. Ability to balance the menu in relation to the physical layout of the kitchen	**42.1% (93)**	35.7% (79)	17.6% (39)	4.1% (9)	0.5% (1)	1.85	
39. Ability to build creativity into the menus while maintaining standardized recipes and procedures-can make revisions when necessary	**41.9% (93)**	36.0% (80)	17.1% (38)	4.5% (10)	0.5% (1)	1.86	
40.Provides incentives to build awareness of maintaining an accident free work environment	33.2% (73)	**41.4% (91)**	20.5% (45)	3.6% (8)	1.4% (3)	1.99	
					answered question		
					skipped question		

11. Please select the choice that indicates the level of importance of each competency statement for entry-level culinary managers.

	Essential	Considerable Importance	Moderate Importance	Limited Importance	No Importance	Rating Average	R
41. Follows federal, state, and local sanitation and safety regulations to ensure compliance by the organization-certified in servsafe	**75.9% (164)**	17.6% (38)	5.6% (12)	0.5% (1)	0.5% (1)	1.32	
42. Ensures that all processes comply with HACCP-ability to institute appropriate protocol for food borne illness outbreak	**68.8% (148)**	21.4% (46)	8.4% (18)	0.9% (2)	0.5% (1)	1.43	
43. Creates a shared vision with team members through the process of empowerment	33.5% (72)	**42.8% (92)**	20.5% (44)	2.8% (6)	0.5% (1)	1.94	
44. Ability to develop professional goals and action plans to achieve career objectives for self and staff	34.0% (73)	**41.9% (90)**	22.8% (49)	1.4% (3)	0.0% (0)	1.92	
45. Understands and practices total quality management	35.5% (76)	**42.1% (90)**	16.4% (35)	4.7% (10)	1.4% (3)	1.94	
46. Maintains a position of chef as "coach" and team leader	**49.8% (107)**	35.3% (76)	12.6% (27)	1.4% (3)	0.9% (2)	1.68	
47. Effectively manages controllable expenses relative to the areas of responsibility	**52.8% (114)**	38.4% (83)	7.4% (16)	0.9% (2)	0.5% (1)	1.58	
48. Ability to interpret ratios and trends to ensure operational efficiency and productivity	37.7% (81)	**40.0% (86)**	17.7% (38)	3.7% (8)	0.9% (2)	1.90	
49. Ability to participate in the recruiting, hiring, orientation, training, and evaluative performance process of employees	35.7% (76)	**40.4% (86)**	19.7% (42)	3.8% (8)	0.5% (1)	1.93	
					answered question		
					skipped question		

12. 50. Are there any other competencies that you believe are essential or of considerable importance which should be included in a Culinary Arts Bachelor Degree?

	Response Count
	36
answered question	36
skipped question	235

Competency	Rating Average
Demonstrates professional appearance, poise, and ethical standards in the work environment	1.22
Operates effectively and calmly under pressure or in crisis situations	1.26
Follows federal, state and local sanitation and safety regulations to ensure compliance by the organization	1.29
Follows federal, state and local sanitation and safety regulations to ensure compliance by the organization-certified in servsafe	1.32
Communicates effectively both written and orally	1.33
Demonstrates positive customer relations-manages guest problems with understanding and sensitivity	1.33
Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees	1.42
Ensures that all processes comply with HACCP-ability to institute appropriate protocol for food borne illness outbreak	1.43
Has adequate product knowledge regarding availability, seasonality, and purchasing of food and beverages	1.48
Possesses appropriate technical skills set in all kitchen areas	1.51
Computer literate	1.55
Effectively manages controllable expenses relative to the areas of responsibility	1.58
Develops work schedules to meet specific operational requirements	1.60
Understands the role of the leader within the company culture and has the ability to develop leadership in others	1.64
Maintains a position of chef as "coach" and team leader	1.68
Maintains a basic knowledge of equipment functioning and maintenance	1.72
Practices effective menu management and incorporates effective production management processes to ensure cross utilitization and quality production	1.72
Ability to effectively balance the administrative functions with operational requirements	1.77
Has the ability to manage diversity through leadership-ensures compliance with EOE and affirmative action	1.78
Assists in the development and control of departmental employee productivity	1.82
Ability to balance the menu in relation to the physical layout of the kitchen	1.85
Ability to build creativity into the menus while maintaining standardized recipes and procedures-can make revisions when necessary	1.86
Develops solutions after identifying organizational and/or operational problems	1.87
Ability to interpret ratios and trends to ensure operational efficiency and productivity	1.90
Delegates responsibility and authority to personnel according to departmental objectives	1.90
Ability to develop professional goals and action plans to achieve career objectives for self and staff	1.92
Ability to participate in the recruiting, hiring, orientation, training, and evaluative performance process of employees	1.93
Creates a shared vision with team members through the process of empowerment	1.94
Understands and practices total quality management	1.94
Provides incentives to build awareness of maintaining an accident free work environment	1.99
Ability to analyze and interpret daily, weekly, monthly, and annual financial and statistical reports, and make sound financial decisions to improve operational efficiency	2.01
Possesses an entrepreneurial mindset to apply operational demands (thinks like an owner)	2.04
Promotes a cooperative union-management relationship and manages employee grievances effectively, if applicable	2.07
Understands all human resource responsibilities and assists in the development of job specifications and job descriptions	2.14
Assists in establishing organizational objectives and their priorities and possesses the needed leadership qualities to achieve the organizational objectives	2.20
Assists in the development and maintenance of budgets to ensure that labor costs and controllable costs are within budgetary projections and industry standards	2.20
Analyzes past and present business information to effectively predict future marketing strategies	2.46
Assists in the development and execution of the annual business plan	2.50
Assists in the analysis and interpretation of customer demographics to identify market trends for menu development	2.55
Assists in operational and strategic planning	2.56

APPENDIX E: Empirical Model for Culinary Manager Trainee Competencies – Post Survey

Conceptual	Leadership	Interpersonal	Administrative	Technical
Assists in the development and execution of the annual business plan	Delegates responsibility and authority to personnel according to departmental objectives	Follows federal, state, and local sanitation and safety regulations to ensure compliance by the organization-certified in servsafe	Promotes a cooperative union-management relationship and manages employee grievances effectively, if applicable	Has adequate product knowledge regarding availability, seasonality, and purchasing of food and beverages
Participates in the development and implementation of a marketing plan by assisting the Executive chef in identifying customer demographics and market trends	Has the ability to manage diversity through leadership-ensures compliance with EOE and Affirmative Action	Ensures that all processes comply with HACCP-ability to institute appropriate protocol for food borne illness outbreak	Understands all human resource responsibilities and assists in the development of job specifications and job descriptions	Possesses appropriate technical skills set in all kitchen areas
Assists in the development and maintenance of budgets to ensure that labor costs and controllable costs are within budgetary projections and industry standards	Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees.	Demonstrates professional appearance, poise, and ethical standards in the work environment	Assists in the development and control of departmental employee productivity	Maintains a basic knowledge of equipment functioning and maintenance
Assists in operational and strategic planning	Understands the role of the leader within the company culture and has the ability to develop leadership in others	Demonstrates positive customer relations-manages guest problems with understanding and sensitivity	Analyzes past and present business information to effectively predict future marketing strategies	Ability to balance the menu in relation to the physical layout of the kitchen
Assists in establishing organizational objectives and their priorities and possesses the needed leadership qualities to achieve the organizational objectives	Creates a shared vision with team members through the process of empowerment	Communicates effectively both written and orally	Ability to analyze and interpret daily, weekly, monthly, and annual financial and statistical reports, and make sound financial decisions to improve operational efficiency	Practices effective menu management and incorporates effective production management processes to ensure cross utilization and quality production

Conceptual	Leadership	Interpersonal	Administrative	Technical
Possesses an entrepreneurial mindset to apply operational demands (thinks like an owner)	Ability to develop professional goals and action plans to achieve career objectives for self and staff	Computer literate	Develops work schedules to meet specific operational requirements	
Develops solutions after identifying organizational and/or operational problems	Understands and practices total quality management	Operates effectively and calmly under pressure or in crisis situations	Ability to effectively balance the administrative functions with operational requirements	
Assists in the analysis and interpretation of customer demographics to identify market trends for menu development			Ability to build creativity into the menus while maintaining standardized recipes and procedures-can make revisions when necessary	
			Provides incentives to build awareness of maintain an accident free work environment	
			Maintains a position of chef as "coach" and team leader	
			Effectively manages controllable expenses relative to the areas of responsibility	
			Ability to interpret ratios and trends to ensure operational efficiency and productivity	
			Ability to participate in the recruiting, hiring, orientation, training, and evaluative performance process of employees.	

Pre-survey (technical construct) and Post-Survey (Interpersonal construct)

Specifically, competency 27, *follows federal, state, and local sanitation and safety regulations to ensure compliance by the organization certified in servsafe* and competency 41, ensures that all processes comply with HACCP-*ability to institute appropriate protocol for food borne illness outbreak,* were placed initially in the technical construct since they addressed adherence to sanitation and safety regulations and compliance with HACCP, which are two highly critical safety/sanitation items. After the factor analysis, both of these competencies fell under the Interpersonal construct. One of the competencies with the highest ratings in the Interpersonal construct by educators and practitioners within the Interpersonal construct was "to follow federal, state, and local sanitation and safety regulations to ensure compliance by the organization-certified in servsafe" Since sanitation and safety regulations involve a manager's personal commitment to "conform and adapt" to very specific regulations, and the survey respondents rated this as imperative, it seems more appropriate that this competency should be placed within this construct especially when the competencies deemed as most important in the technical area include product knowledge, technical skills and effective menu management and production management processes.

Pre-survey (interpersonal construct) and Post-Survey (leadership construct)

Competency 44, *ability to develop professional goals and action plans to achieve career objectives for self and staff,* and competency 45, *understands and practices total quality management* initially categorized in interpersonal is a learned skill, which an entry to middle-level manager could develop over time, as they become a more seasoned leader.

Pre-survey (Technical construct) and Post-Survey (Administrative construct)

Competency 39, *ability to build creativity into the menus while maintaining standardized recipes and procedures-can make revisions when necessary and* competency 40, *provides incentives to build awareness of maintaining an accident free work environment,* most likely grouped under the administrative construct since the competency description is *"to build creativity"* and *"tobuild awareness"* would more appropriately fit under this construct since facilitate is connected to change, in contrast to technical which infers engaging in more of a "hands-on" activity.

Survey Results of Culinary Industry Practitioners and Educators Perceptions of Essential Core Competencies for a Four-Year Bachelor's Degree in the Culinary Arts

	Pre-Survey		Post-Survey	
	Culinary Industry	Culinary Educators	Culinary Industry	Culinary Educators
Follows federal, state, and local sanitation and safety regulations to ensure compliance by the organization certified in servsafe		X		X
Ensures that all processes comply with HACCP-ability to institute appropriate protocol for food borne illness outbreak		X		X
Creates a shared vision with team members through the process of empowerment	X		X	
Ability to develop professional goals and action plans to achieve career objectives for self and staff	X		X	
Understands and practices total quality management	X		X	
Ability to build creativity into the menus while maintaining standardized recipes and procedures-can make revisions when necessary		X		X
Provides incentives to build awareness to maintain an accident free work environment		X		X

Scale: (1) = Essential (5) = No Importance

APPENDIX F: RELIAILITY ANALYSIS

Reliability for Scale: Administrative

Case Processing Summary

		N	%
Cases	Valid	196	72.3
	Excluded[a]	75	27.7
	Total	271	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.921	13

Item Statistics

	Mean	Std. Deviation	N
C42 49. Ability to participate in the recruiting, hiring, orientation, training, and evaluative performance process of employees	1.94	.857	196

C22 29. Analyzes past and present business information to effectively predict future marketing strategies	2.43	1.067	196
C23 30. Ability to analyze and interpret daily, weekly, monthly, and annual financial and statistical reports, and make sound financial decisions to improve operational efficiency	2.02	.936	196
C41 48. Ability to interpret ratios and trends to ensure operational efficiency and productivity	1.88	.842	196
C21 28. Assists in the development and control of departmental employee productivity	1.83	.802	196
C33 40. Provides incentives to build awareness of maintaining an accident free work environment	2.01	.900	196
C40 47. Effectively manages controllable expenses relative to the areas of responsibility	1.60	.713	196

C32 39. Ability to build creativity into the menus while maintaining standardized recipes and procedures-can make revisions when necessary	1.85	.881	196
C39 46. Maintains a position of chef as "coach" and team leader	1.70	.827	196
C27 34. Ability to effectively balance the administrative functions with operational requirements	1.80	.784	196
C17 24. Understands all human resource responsibilities and assists in the development of job specifications and job descriptions	2.15	.891	196
C25 32. Develops work schedules to meet specific operational requirements	1.61	.712	196
C16 23. Promotes a cooperative union-management relationship and manages employee grievances effectively, if applicable	2.07	.977	196

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C42 49. Ability to participate in the recruiting, hiring, orientation, training, and evaluative performance process of employees	22.93	55.180	.720	.913
C22 29. Analyzes past and present business information to effectively predict future marketing strategies	22.44	52.771	.721	.913
C23 30. Ability to analyze and interpret daily, weekly, monthly, and annual financial and statistical reports, and make sound financial decisions to improve operational efficiency	22.86	54.544	.699	.913
C41 48. Ability to interpret ratios and trends to ensure operational efficiency and productivity	22.99	55.743	.687	.914
C21 28. Assists in the development and control of departmental employee productivity	23.04	55.639	.736	.912
C33 40. Provides incentives to build awareness of maintaining an accident free work environment	22.86	55.463	.657	.915

C40 47. Effectively manages controllable expenses relative to the areas of responsibility	23.28	57.595	.645	.916
C32 39. Ability to build creativity into the menus while maintaining standardized recipes and procedures-can make revisions when necessary	23.03	55.902	.638	.916
C39 46. Maintains a position of chef as "coach" and team leader	23.17	56.093	.671	.915
C27 34. Ability to effectively balance the administrative functions with operational requirements	23.08	56.635	.664	.915
C17 24. Understands all human resource responsibilities and assists in the development of job specifications and job descriptions	22.72	55.749	.642	.916
C25 32. Develops work schedules to meet specific operational requirements	23.27	57.960	.611	.917
C16 23. Promotes a cooperative union-management relationship and manages employee grievances effectively, if applicable	22.81	56.424	.525	.921

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
24.87	65.086	8.068	13

Reliability Test for Scale: Leadership

Case Processing Summary

		N	%
Cases	Valid	210	77.5
	Excluded[a]	61	22.5
	Total	271	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.831	7

Item Statistics

	Mean	Std. Deviation	N
C11 18. Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees	1.41	.673	210

C9 16. Delegates responsibility and authority to personnel according to departmental objectives	1.91	.929	210
C15 22. Understands the role of the leader within the company culture and has the ability to develop leadership in others	1.64	.734	210
C36 43. Creates a shared vision with team members through the process of empowerment	1.94	.834	210
C37 44. Ability to develop professional goals and action plans to achieve career objectives for self and staff	1.91	.786	210
C10 17. Has the ability to manage diversity through leadership-ensures compliance with EOE and affirmative action	1.74	.898	210
C38 45. Understands and practices total quality management	1.95	.914	210

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C11 18. Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees	11.09	13.547	.545	.814
C9 16. Delegates responsibility and authority to personnel according to departmental objectives	10.59	12.234	.554	.813
C15 22. Understands the role of the leader within the company culture and has the ability to develop leadership in others	10.86	13.507	.492	.820
C36 43. Creates a shared vision with team members through the process of empowerment	10.56	12.095	.674	.792
C37 44. Ability to develop professional goals and action plans to achieve career objectives for self and staff	10.59	12.320	.682	.792

C10 17. Has the ability to manage diversity through leadership-ensures compliance with EOE and affirmative action	10.76	12.029	.620	.801
C38 45. Understands and practices total quality management	10.55	12.583	.507	.821

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
12.50	16.701	4.087	7

Reliability for Scale: Conceptual

Case Processing Summary

		N	%
Cases	Valid	228	84.1
	Excluded[a]	43	15.9
	Total	271	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items

Reliability Statistics

Cronbach's Alpha	N of Items
.882	8

Item Statistics

	Mean	Std. Deviation	N
C5 12. Assists in the development and execution of the annual business plan	2.52	1.068	228
C3 10. Participates in the development and implementation of a marketing plan by assisting the Executive chef in identifying customer demographics and market trends	2.74	1.067	228
C2 9. Assists in the development and maintenance of budgets to ensure that labor costs and controllable costs are within budgetary projections and industry standards	2.19	1.100	228
C1 8. Assists in operational and strategic planning	2.56	1.083	228

C6 13. Develops solutions after identifying organizational and/or operational problems	1.86	.869	228
C7 14. Assists in the analysis and interpretation of customer demographics to identify market trends for menu development	2.54	1.084	228
C8 15. Assists in establishing organizational objectives and their priorities and possesses the needed leadership qualities to achieve the organizational objectives	2.20	.917	228
C4 11. Possesses an entrepreneurial mindset to apply operational demands (thinks like an owner)	2.04	.949	228

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C5 12. Assists in the development and execution of the annual business plan	16.12	27.439	.714	.861

C3 10. Participates in the development and implementation of a marketing plan by assisting the Executive chef in identifying customer demographics and market trends	15.91	27.115	.748	.857
C2 9. Assists in the development and maintenance of budgets to ensure that labor costs and controllable costs are within budgetary projections and industry standards	16.46	27.262	.704	.862
C1 8. Assists in operational and strategic planning	16.08	27.760	.669	.866
C6 13. Develops solutions after identifying organizational and/or operational problems	16.79	30.249	.582	.874
C7 14. Assists in the analysis and interpretation of customer demographics to identify market trends for menu development	16.11	28.221	.622	.871
C8 15. Assists in establishing organizational objectives and their priorities and possesses the needed leadership qualities to achieve the organizational objectives	16.44	29.464	.629	.870

C4 11. Possesses an entrepreneurial mindset to apply operational demands (thinks like an owner)	16.61	30.214	.522	.880

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
18.64	36.565	6.047	8

Reliability for Scale: Interpersonal

Case Processing Summary

		N	%
Cases	Valid	210	77.5
	Excluded[a]	61	22.5
	Total	271	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.799	7

Item Statistics

	Mean	Std. Deviation	N
C34 41. Follows federal, state, and local sanitation and safety regulations to ensure compliance by the organization-certified in servsafe	1.30	.636	210
C35 42. Ensures that all processes comply with HACCP-ability to institute appropriate protocol for food borne illness outbreak	1.42	.723	210
C12 19. Demonstrates professional appearance, poise, and ethical standards in the work environment	1.21	.452	210
C14 21. Demonstrates positive customer relations-manages guest problems with understanding and sensitivity	1.33	.548	210
C24 31. Communicates effectively both written and orally	1.34	.550	210
C26 33. Computer literate	1.56	.718	210
C13 20. Operates effectively and calmly under pressure or in crisis situations	1.27	.485	210

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C34 41. Follows federal, state, and local sanitation and safety regulations to ensure compliance by the organization-certified in servsafe	8.13	5.739	.571	.765
C35 42. Ensures that all processes comply with HACCP-ability to institute appropriate protocol for food borne illness outbreak	8.01	5.421	.577	.766
C12 19. Demonstrates professional appearance, poise, and ethical standards in the work environment	8.22	6.328	.593	.768
C14 21. Demonstrates positive customer relations-manages guest problems with understanding and sensitivity	8.10	5.985	.596	.762
C24 31. Communicates effectively both written and orally	8.09	6.131	.532	.773
C26 33. Computer literate	7.88	5.803	.452	.793

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C34 41. Follows federal, state, and local sanitation and safety regulations to ensure compliance by the organization-certified in servsafe	8.13	5.739	.571	.765
C35 42. Ensures that all processes comply with HACCP-ability to institute appropriate protocol for food borne illness outbreak	8.01	5.421	.577	.766
C12 19. Demonstrates professional appearance, poise, and ethical standards in the work environment	8.22	6.328	.593	.768
C14 21. Demonstrates positive customer relations-manages guest problems with understanding and sensitivity	8.10	5.985	.596	.762
C24 31. Communicates effectively both written and orally	8.09	6.131	.532	.773
C26 33. Computer literate	7.88	5.803	.452	.793
C13 20. Operates effectively and calmly under pressure or in crisis situations	8.17	6.494	.468	.784

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
9.43	7.883	2.808	7

Reliability for Scale: Technical

Case Processing Summary

		N	%
Cases	Valid	219	80.8
	Excluded[a]	52	19.2
	Total	271	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.818	5

Item Statistics

	Mean	Std. Deviation	N
C19 26. Has adequate product knowledge regarding availability, seasonality, and purchasing of food and beverages	1.48	.645	219
C18 25. Possesses appropriate technical skills set in all kitchen areas	1.48	.706	219
C30 37. Maintains a basic knowledge of equipment functioning and maintenance	1.73	.751	219
C31 38. Ability to balance the menu in relation to the physical layout of the kitchen	1.86	.885	219
C29 36. Practices effective menu management and incorporates effective production management processes to ensure cross utilitization and quality production	1.72	.778	219

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C19 26. Has adequate product knowledge regarding availability, seasonality, and purchasing of food and beverages	6.79	5.834	.656	.773
C18 25. Possesses appropriate technical skills set in all kitchen areas	6.79	5.791	.589	.788
C30 37. Maintains a basic knowledge of equipment functioning and maintenance	6.54	5.781	.538	.802
C31 38. Ability to balance the menu in relation to the physical layout of the kitchen	6.42	5.042	.621	.782
C29 36. Practices effective menu management and incorporates effective production management processes to ensure cross utilitization and quality production	6.55	5.294	.668	.764

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
8.27	8.292	2.880	5

Descriptive Statistics for the five constructs:

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Administrative Construct	225	1.00	4.23	1.9129	.63484
Leadership Construct	235	1.00	4.00	1.7954	.62148
Conceptual Construct	236	1.00	4.63	2.3369	.75374
Interpersonal Construct	225	1.00	2.71	1.3434	.40058
Technical Construct	225	1.00	4.00	1.6662	.59979
Valid N (listwise)	225				

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Administrative Construct * Profession	225	83.0%	46	17.0%	271	100.0%
Leadership Construct * Profession	235	86.7%	36	13.3%	271	100.0%
Conceptual Construct * Profession	236	87.1%	35	12.9%	271	100.0%
Interpersonal Construct * Profession	225	83.0%	46	17.0%	271	100.0%

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Administrative Construct * Profession	225	83.0%	46	17.0%	271	100.0%
Leadership Construct * Profession	235	86.7%	36	13.3%	271	100.0%
Conceptual Construct * Profession	236	87.1%	35	12.9%	271	100.0%
Interpersonal Construct * Profession	225	83.0%	46	17.0%	271	100.0%
Technical Construct * Profession	225	83.0%	46	17.0%	271	100.0%

Descriptive Statistics of the Constructs with Profession

Profession		Administrative Construct	Leadership Construct	Conceptual Construct	Interpersonal Construct	Technical Construct
Hospitality Educator	N	110	116	110	110	110
	Mean	1.8875	1.8953	1.3557	1.3557	1.6709
	Std. Deviation	.58724	.62956	.41161	.41161	.60976
Culinary Educator	N	21	22	21	21	21
	Mean	1.7403	1.7884	1.2925	1.2925	1.7143
	Std. Deviation	.43550	.62172	.46396	.46396	.45419
Chef Practitioner	N	43	44	43	43	43
	Mean	1.7866	1.5119	1.3023	1.3023	1.5093
	Std. Deviation	.54643	.39750	.32727	.32727	.50371
Chef Owner	N	51	53	51	51	51
	Mean	2.1451	1.8149	1.3725	1.3725	1.7686
	Std. Deviation	.80278	.69577	.41200	.41200	.68746
Total	N	225	235	225	225	225
	Mean	1.9129	1.7954	1.3434	1.3434	1.6662
	Std. Deviation	.63484	.62148	.40058	.40058	.59979

APPENDIX G: ANOVA AND POST HOE TESTS

ANOVA Table for Construct with Profession

			Sum of Squares	df	Mean Square	F	Sig.
Administrative Construct * Profession	Between Groups	(Combined)	4.131	3	1.377	3.533	.016
		Within Groups	86.146	221	.390		
		Total	90.277	224			
Leadership Construct * Profession	Between Groups	(Combined)	4.716	3	1.572	4.239	.006
		Within Groups	85.664	231	.371		
		Total	90.380	234			
Conceptual Construct * Profession	Between Groups	(Combined)	3.726	3	1.242	2.220	.087
		Within Groups	129.784	232	.559		
		Total	133.510	235			
Interpersonal Construct * Profession	Between Groups	(Combined)	.187	3	.062	.385	.764
		Within Groups	35.757	221	.162		
		Total	35.944	224			
Technical Construct * Profession	Between Groups	(Combined)	1.645	3	.548	1.535	.206
		Within Groups	78.939	221	.357		

ANOVA Table for Construct with Profession

			Sum of Squares	df	Mean Square	F	Sig.
Administrative Construct * Profession	Between Groups	(Combined)	4.131	3	1.377	3.533	.016
		Within Groups	86.146	221	.390		
		Total	90.277	224			
Leadership Construct * Profession	Between Groups	(Combined)	4.716	3	1.572	4.239	.006
		Within Groups	85.664	231	.371		
		Total	90.380	234			
Conceptual Construct * Profession	Between Groups	(Combined)	3.726	3	1.242	2.220	.087
		Within Groups	129.784	232	.559		
		Total	133.510	235			
Interpersonal Construct * Profession	Between Groups	(Combined)	.187	3	.062	.385	.764
		Within Groups	35.757	221	.162		
		Total	35.944	224			
Technical Construct * Profession	Between Groups	(Combined)	1.645	3	.548	1.535	.206
		Within Groups	78.939	221	.357		
		Total	80.583	224			

ANOVA Table

			Mean Square	F	Sig.
Administrative Construct * Profession	Between Groups	(Combined)	1.377	3.533	.016
		Within Groups	.390		
Leadership Construct * Profession	Between Groups	(Combined)	1.572	4.239	.006
		Within Groups	.371		
Conceptual Construct * Profession	Between Groups	(Combined)	1.242	2.220	.087
		Within Groups	.559		
Interpersonal Construct * Profession	Between Groups	(Combined)	.062	.385	.764
		Within Groups	.162		
Technical Construct * Profession	Between Groups	(Combined)	.548	1.535	.206
		Within Groups	.357		

Measures of Association

	Eta	Eta Squared
Administrative Construct * Profession 1. Specify your current professional career	.214	.046
Leadership Construct * Profession 1. Specify your current professional career	.228	.052
Conceptual Construct * Profession 1. Specify your current professional career	.167	.028
Interpersonal Construct * Profession 1. Specify your current professional career	.072	.005
Technical Construct * Profession 1. Specify your current professional career	.143	.020

Descriptive Statistics

Profession		Mean	Std. Deviation
Hospitality Educator	Administrative Construct	1.8875	.58724
	Leadership Construct	1.8953	.62956
	Conceptual Construct	2.3692	.68223
	Interpersonal Construct	1.3557	.41161
	Technical Construct	1.6709	.60976
Culinary Educator	Administrative Construct	1.7403	.43550
	Leadership Construct	1.7884	.62172
	Conceptual Construct	2.1948	.63374
	Interpersonal Construct	1.2925	.46396
	Technical Construct	1.7143	.45419
Chef Practitioner	Administrative Construct	1.7866	.54643
	Leadership Construct	1.5119	.39750
	Conceptual Construct	2.1323	.80007
	Interpersonal Construct	1.3023	.32727
	Technical Construct	1.5093	.50371
Chef Owner	Administrative Construct	2.1451	.80278
	Leadership Construct	1.8149	.69577
	Conceptual Construct	2.4946	.87524

	Interpersonal Construct	1.3725	.41200
	Technical Construct	1.7686	.68746

T-Test for difference in mean of construct for educators versus practitioners

Group Statistics

	Profession	N	Mean	Std. Deviation	Std. Error Mean
Administrative Construct	Practitioners	94	1.9811	.71663	.07392
	Educators	131	1.8639	.56680	.04952
Leadership Construct	Practitioners	97	1.6775	.59664	.06058
	Educators	138	1.8783	.62729	.05340
Conceptual Construct	Practitioners	97	2.3303	.85705	.08702
	Educators	139	2.3416	.67560	.05730
Interpersonal Construct	Practitioners	94	1.3404	.37532	.03871
	Educators	131	1.3456	.41918	.03662
Technical Construct	Practitioners	94	1.6500	.62092	.06404
	Educators	131	1.6779	.58629	.05122

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
Administrative Construct	Equal variances assumed	3.056	.082	1.368

	Equal variances not assumed			1.317
Leadership Construct	Equal variances assumed	.089	.766	-2.465
	Equal variances not assumed			-2.487
Conceptual Construct	Equal variances assumed	6.919	.009	-.113
	Equal variances not assumed			-.109
Interpersonal Construct	Equal variances assumed	.511	.475	-.096
	Equal variances not assumed			-.098
Technical Construct	Equal variances assumed	.405	.525	-.343
	Equal variances not assumed			-.340

Independent Samples Test

		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Administrative Construct	Equal variances assumed	223	.173	.11716
	Equal variances not assumed	170.634	.190	.11716
Leadership Construct	Equal variances assumed	233	.014	-.20081
	Equal variances not assumed	213.019	.014	-.20081
Conceptual Construct	Equal variances assumed	234	.910	-.01133
	Equal variances not assumed	174.485	.914	-.01133
Interpersonal Construct	Equal variances assumed	223	.924	-.00521
	Equal variances not assumed	212.309	.922	-.00521
Technical Construct	Equal variances assumed	223	.732	-.02786
	Equal variances not assumed	193.424	.734	-.02786

Independent Samples Test

		t-test for Equality of Means		
			95% Confidence Interval of the Difference	
		Std. Error Difference	Lower	Upper
Administrative Construct	Equal variances assumed	.08565	-.05162	.28594
	Equal variances not assumed	.08897	-.05847	.29278
Leadership Construct	Equal variances assumed	.08147	-.36132	-.04031
	Equal variances not assumed	.08075	-.35999	-.04163
Conceptual Construct	Equal variances assumed	.09993	-.20821	.18555
	Equal variances not assumed	.10419	-.21697	.19431
Interpersonal Construct	Equal variances assumed	.05427	-.11215	.10173
	Equal variances not assumed	.05329	-.11025	.09984
Technical Construct	Equal variances assumed	.08124	-.18795	.13223
	Equal variances not assumed	.08201	-.18961	.13388

T-Test – Difference of the means for each competency for practitioner (profession>= 6) versus educator (profession<6)

Group Statistics

	Profession	N	Mean	Std. Deviation	Std. Error Mean
C1 8. Assists in operational and strategic planning	>= 6	97	2.39	1.085	.110
	< 6	137	2.69	1.076	.092
C2 9. Assists in the development and maintenance of budgets to ensure that labor costs and controllable costs are within budgetary projections and industry standards	>= 6	97	2.33	1.239	.126
	< 6	138	2.11	1.009	.086
C3 10. Participates in the development and implementation of a marketing plan by assisting the Executive chef in identifying customer demographics and market trends	>= 6	97	2.75	1.233	.125
	< 6	136	2.73	.923	.079
C4 11. Possesses an entrepreneurial mindset to apply operational demands (thinks like an owner)	>= 6	96	1.90	.968	.099
	< 6	139	2.14	.926	.079
C5 12. Assists in the development and execution of the annual business plan	>= 6	97	2.64	1.226	.125
	< 6	138	2.41	.925	.079
C6 13. Develops solutions	>= 6	96	1.84	.921	.094

after identifying organizational and/or operational problems	< 6	138	1.88	.829	.071
C7 14. Assists in the analysis and interpretation of customer demographics to identify market trends for menu development	>= 6	95	2.72	1.243	.128
	< 6	138	2.43	.951	.081
C8 15. Assists in establishing organizational objectives and their priorities and possesses the needed leadership qualities to achieve the organizational objectives	>= 6	97	2.07	.904	.092
	< 6	138	2.28	.912	.078
C9 16. Delegates responsibility and authority to personnel according to departmental objectives	>= 6	97	1.86	1.000	.102
	< 6	137	1.93	.893	.076
C10 17. Has the ability to manage diversity through leadership-ensures compliance with EOE and affirmative action	>= 6	97	1.85	1.034	.105
	< 6	137	1.73	.853	.073
C11 18. Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees	>= 6	97	1.38	.714	.072
	< 6	138	1.45	.695	.059
C12 19. Demonstrates	>= 6	94	1.16	.396	.041

professional appearance, poise, and ethical standards in the work environment	< 6	131	1.26	.490	.043
C13 20. Operates effectively and calmly under pressure or in crisis situations	>= 6	94	1.19	.396	.041
	< 6	131	1.31	.527	.046
C14 21. Demonstrates positive customer relations-manages guest problems with understanding and sensitivity	>= 6	94	1.30	.460	.047
	< 6	130	1.35	.593	.052
C15 22. Understands the role of the leader within the company culture and has the ability to develop leadership in others	>= 6	94	1.46	.634	.065
	< 6	130	1.77	.773	.068
C16 23. Promotes a cooperative union-management relationship and manages employee grievances effectively, if applicable	>= 6	91	2.12	1.124	.118
	< 6	129	2.03	.892	.079
C17 24. Understands all human resource responsibilities and assists in the development of job specifications and job descriptions	>= 6	94	2.18	.939	.097
	< 6	130	2.12	.877	.077
C18 25. Possesses appropriate technical skills set in all kitchen areas	>= 6	93	1.43	.772	.080
	< 6	130	1.57	.725	.064

C19 26. Has adequate product knowledge regarding availability, seasonality, and purchasing of food and beverages	>= 6	94	1.54	.650	.067
	< 6	130	1.46	.661	.058
C21 28. Assists in the development and control of departmental employee productivity	>= 6	91	1.84	.860	.090
	< 6	129	1.81	.761	.067
C22 29. Analyzes past and present business information to effectively predict future marketing strategies	>= 6	94	2.62	1.165	.120
	< 6	129	2.35	1.021	.090
C23 30. Ability to analyze and interpret daily, weekly, monthly, and annual financial and statistical reports, and make sound financial decisions to improve operational efficiency	>= 6	92	2.22	1.118	.117
	< 6	131	1.87	.817	.071
C24 31. Communicates effectively both written and orally	>= 6	91	1.32	.514	.054
	< 6	130	1.34	.565	.050
C25 32. Develops work schedules to meet specific operational requirements	>= 6	89	1.69	.777	.082
	< 6	131	1.53	.648	.057
C26 33. Computer literate	>= 6	92	1.61	.770	.080
	< 6	130	1.50	.685	.060
C27 34. Ability to	>= 6	91	1.79	.901	.094

effectively balance the administrative functions with operational requirements	< 6	131	1.76	.711	.062
C29 36. Practices effective menu management and incorporates effective production management processes to ensure cross utilitization and quality production	>= 6	92	1.77	.827	.086
	< 6	131	1.69	.765	.067
C30 37. Maintains a basic knowledge of equipment functioning and maintenance	>= 6	91	1.62	.742	.078
	< 6	131	1.79	.752	.066
C31 38. Ability to balance the menu in relation to the physical layout of the kitchen	>= 6	90	1.80	.974	.103
	< 6	131	1.89	.819	.072
C32 39. Ability to build creativity into the menus while maintaining standardized recipes and procedures-can make revisions when necessary	>= 6	91	1.88	.953	.100
	< 6	131	1.84	.849	.074
C33 40. Provides incentives to build awareness of maintaining an accident free work environment	>= 6	90	2.03	1.022	.108
	< 6	130	1.95	.806	.071
C34 41. Follows federal,	>= 6	90	1.33	.561	.059

state, and local sanitation and safety regulations to ensure compliance by the organization-certified in servsafe	< 6	126	1.31	.698	.062
C35 42. Ensures that all processes comply with HACCP-ability to institute appropriate protocol for food borne illness outbreak	>= 6	90	1.51	.811	.085
	< 6	125	1.37	.654	.059
C36 43. Creates a shared vision with team members through the process of empowerment	>= 6	89	1.82	.847	.090
	< 6	126	2.02	.815	.073
C37 44. Ability to develop professional goals and action plans to achieve career objectives for self and staff	>= 6	90	1.82	.829	.087
	< 6	125	1.98	.751	.067
C38 45. Understands and practices total quality management	>= 6	88	1.63	.700	.075
	< 6	126	2.17	.978	.087
C39 46. Maintains a position of chef as "coach" and team leader	>= 6	90	1.59	.860	.091
	< 6	125	1.75	.779	.070
C40 47. Effectively manages controllable expenses relative to the areas of responsibility	>= 6	90	1.59	.748	.079
	< 6	126	1.57	.686	.061
C41 48. Ability to interpret ratios and trends to ensure operational efficiency and productivity	>= 6	90	2.02	1.016	.107
	< 6	125	1.82	.766	.069

C42 49. Ability to participate in the recruiting, hiring, orientation, training, and evaluative performance process of employees	>= 6	88	2.05	.958	.102
	< 6	125	1.85	.783	.070

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					
								95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
C1 8. Assists in operational and strategic planning	Equal variances assumed	.001	.980	-2.054	232	.041	-.294	.143	-.577	-.012
	Equal variances not assumed			-2.051	205.766	.042	-.294	.144	-.577	-.011
C2 9. Assists in the development	Equal variances assumed	8.123	.005	1.505	233	.134	.221	.147	-.068	.511

and maintenance of budgets to ensure that labor costs and controllable costs are within budgetary projections and industry standards	Equal variances not assumed			1.452	179.009	.148	.221	.152	-.079	.522
C3 10. Participates in the development and implementation of a marketing plan by assisting the Executive chef in identifying customer demographics and market trends	Equal variances assumed	15.621	.000	.174	231	.862	.025	.141	-.254	.303
	Equal variances not assumed			.166	168.799	.868	.025	.148	-.268	.317
C4 11. Possesses an entrepreneuria	Equal variances assumed	.225	.636	-1.924	233	.056	-.241	.125	-.488	.006

l mindset to apply operational demands (thinks like an owner)	Equal variances not assumed			-1.909	198.544	.058	-.241	.126	-.490	.008
C5 12. Assists in the development and execution of the annual business plan	Equal variances assumed	10.286	.002	1.662	233	.098	.233	.140	-.043	.510
	Equal variances not assumed			1.584	169.207	.115	.233	.147	-.057	.524
C6 13. Develops solutions after identifying organizational and/or operational problems	Equal variances assumed	1.233	.268	-.349	232	.727	-.040	.115	-.268	.187
	Equal variances not assumed			-.343	190.270	.732	-.040	.118	-.272	.192
C7 14. Assists in the analysis and interpretation of customer demographics to identify market trends for menu development	Equal variances assumed	10.683	.001	2.003	231	.046	.288	.144	.005	.572
	Equal variances not assumed			1.908	166.370	.058	.288	.151	-.010	.587
C8 15. Assists in establishing	Equal variances assumed	1.612	.206	-1.748	233	.082	-.210	.120	-.448	.027

organizational objectives and their priorities and possesses the needed leadership qualities to achieve the organizational objectives	Equal variances not assumed			-1.750	207.904	.082	-.210	.120	-.447	.027
C9 16. Delegates responsibility and authority to personnel according to departmental objectives	Equal variances assumed	.403	.526	-.631	232	.528	-.079	.125	-.324	.167
	Equal variances not assumed			-.619	191.827	.536	-.079	.127	-.329	.172
C10 17. Has the ability to manage diversity through leadership-ensures compliance with EOE and affirmative action	Equal variances assumed	1.165	.282	.933	232	.352	.115	.124	-.128	.359
	Equal variances not assumed			.903	181.128	.368	.115	.128	-.137	.368
C11 18. Develops positive	Equal variances assumed	.638	.425	-.729	233	.467	-.068	.093	-.251	.116

employee relations by encouraging, motivating, mentoring, coaching and counseling employees	Equal variances not assumed			-.725	203.315	.469	-.068	.094	-.252	.117
C12 19. Demonstrates professional appearance, poise, and ethical standards in the work environment	Equal variances assumed	10.371	.001	-1.632	223	.104	-.100	.061	-.221	.021
	Equal variances not assumed			-1.689	219.731	.093	-.100	.059	-.217	.017
C13 20. Operates effectively and calmly under pressure or in crisis situations	Equal variances assumed	15.547	.000	-1.885	223	.061	-.121	.064	-.249	.006
	Equal variances not assumed			-1.974	222.542	.050	-.121	.062	-.243	.000
C14 21. Demonstrates positive customer relations-manages guest problems with understanding and sensitivity	Equal variances assumed	3.567	.060	-.659	222	.511	-.048	.073	-.193	.096
	Equal variances not assumed			-.686	220.906	.494	-.048	.070	-.187	.090

C15 22. Understands the role of the leader within the company culture and has the ability to develop leadership in others	Equal variances assumed	3.076	.081	-3.208	222	.002	-.312	.097	-.503	-.120
	Equal variances not assumed			-3.311	218.472	.001	-.312	.094	-.497	-.126
C16 23. Promotes a cooperative union-management relationship and manages employee grievances effectively, if applicable	Equal variances assumed	2.780	.097	.660	218	.510	.090	.136	-.178	.358
	Equal variances not assumed			.635	164.891	.526	.090	.142	-.190	.369
C17 24. Understands all human resource responsibilities and assists in the development of job specifications and job descriptions	Equal variances assumed	1.928	.166	.535	222	.593	.065	.122	-.176	.307
	Equal variances not assumed			.529	192.284	.597	.065	.124	-.178	.309
C18 25. Possesses appropriate	Equal variances assumed	.483	.488	-1.375	221	.171	-.139	.101	-.339	.060

technical skills set in all kitchen areas	Equal variances not assumed			-1.361	190.709	.175	-.139	.102	-.341	.063
C19 26. Has adequate product knowledge regarding availability, seasonality, and purchasing of food and beverages	Equal variances assumed	.111	.739	.912	222	.363	.081	.089	-.094	.256
	Equal variances not assumed			.914	202.358	.362	.081	.089	-.094	.256
C21 28. Assists in the development and control of departmental employee productivity	Equal variances assumed	.437	.509	.263	218	.793	.029	.110	-.188	.246
	Equal variances not assumed			.258	178.634	.797	.029	.112	-.193	.251
C22 29. Analyzes past and present business information to effectively predict future marketing strategies	Equal variances assumed	2.416	.122	1.825	221	.069	.268	.147	-.021	.558
	Equal variances not assumed			1.787	184.232	.076	.268	.150	-.028	.564
C23 30. Ability to analyze and	Equal variances assumed	14.574	.000	2.680	221	.008	.347	.130	.092	.602

interpret daily, weekly, monthly, and annual financial and statistical reports, and make sound financial decisions to improve operational efficiency	Equal variances not assumed			2.541	156.694	.012	.347	.137	.077	.617
C24 31. Communicates effectively both written and orally	Equal variances assumed	.664	.416	-.266	219	.791	-.020	.074	-.166	.127
	Equal variances not assumed			-.270	204.493	.787	-.020	.073	-.164	.124
C25 32. Develops work schedules to meet specific operational requirements	Equal variances assumed	1.989	.160	1.564	218	.119	.151	.097	-.039	.341
	Equal variances not assumed			1.511	165.695	.133	.151	.100	-.046	.348
C26 33. Computer literate	Equal variances assumed	1.319	.252	1.106	220	.270	.109	.098	-.085	.302
	Equal variances not assumed			1.084	181.366	.280	.109	.100	-.089	.306

C27 34. Ability to effectively balance the administrative functions with operational requirements	Equal variances assumed	4.978	.027	.257	220	.797	.028	.108	-.186	.241
	Equal variances not assumed			.246	163.495	.806	.028	.113	-.195	.251
C29 36. Practices effective menu management and incorporates effective production management processes to ensure cross utilitization and quality production	Equal variances assumed	.269	.604	.787	221	.432	.085	.108	-.127	.297
	Equal variances not assumed			.776	186.279	.438	.085	.109	-.131	.300
C30 37. Maintains a basic knowledge of equipment functioning and maintenance	Equal variances assumed	.010	.920	-1.750	220	.082	-.179	.102	-.380	.023
	Equal variances not assumed			-1.754	195.334	.081	-.179	.102	-.379	.022
C31 38. Ability to balance the	Equal variances assumed	6.631	.011	-.705	219	.481	-.085	.121	-.324	.153

menu in relation to the physical layout of the kitchen	Equal variances not assumed			-.683	169.227	.495	-.085	.125	-.333	.162
C32 39. Ability to build creativity into the menus while maintaining standardized recipes and procedures-can make revisions when necessary	Equal variances assumed	.729	.394	.324	220	.747	.039	.122	-.201	.280
	Equal variances not assumed			.317	178.944	.752	.039	.124	-.206	.285
C33 40. Provides incentives to build awareness of maintaining an accident free work environment	Equal variances assumed	3.707	.055	.644	218	.520	.079	.123	-.164	.323
	Equal variances not assumed			.617	161.470	.538	.079	.129	-.175	.334
C34 41. Follows federal, state,	Equal variances assumed	.087	.768	.268	214	.789	.024	.089	-.152	.199

and local sanitation and safety regulations to ensure compliance by the organization-certified in servsafe	Equal variances not assumed			.277	210.997	.782	.024	.086	-.145	.193
C35 42. Ensures that all processes comply with HACCP-ability to institute appropriate protocol for food borne illness outbreak	Equal variances assumed	3.657	.057	1.430	213	.154	.143	.100	-.054	.340
	Equal variances not assumed			1.382	165.860	.169	.143	.104	-.061	.348
C36 43. Creates a shared vision with team members through the process of empowerment	Equal variances assumed	.611	.435	-1.776	213	.077	-.204	.115	-.430	.022
	Equal variances not assumed			-1.764	184.963	.079	-.204	.115	-.431	.024
C37 44. Ability to develop	Equal variances assumed	7.063	.008	-1.492	213	.137	-.162	.108	-.376	.052

professional goals and action plans to achieve career objectives for self and staff	Equal variances not assumed			-1.468	180.152	.144	-.162	.110	-.379	.056
C38 45. Understands and practices total quality management	Equal variances assumed	3.904	.049	-4.459	212	.000	-.542	.121	-.781	-.302
	Equal variances not assumed			-4.723	211.855	.000	-.542	.115	-.768	-.316
C39 46. Maintains a position of chef as "coach" and team leader	Equal variances assumed	.088	.768	-1.450	213	.149	-.163	.113	-.385	.059
	Equal variances not assumed			-1.427	180.188	.155	-.163	.114	-.389	.062
C40 47. Effectively manages controllable expenses relative to the areas of responsibility	Equal variances assumed	.022	.883	.178	214	.859	.017	.098	-.176	.211
	Equal variances not assumed			.175	181.479	.861	.017	.100	-.179	.214
C41 48. Ability to interpret	Equal variances assumed	5.386	.021	1.696	213	.091	.206	.122	-.033	.446

ratios and trends to ensure operational efficiency and productivity	Equal variances not assumed			1.621	157.742	.107	.206	.127	-.045	.457
C42 49. Ability to participate in the recruiting, hiring, orientation, training, and evaluative performance process of employees	Equal variances assumed	1.382	.241	1.651	211	.100	.197	.120	-.038	.433
	Equal variances not assumed			1.594	162.900	.113	.197	.124	-.047	.442

T-Test for Leadership Construct and Profession

Group Statistics

	Profession	N	Mean	Standard Deviation	Std. Error Mean
Leadership Construct	>= 6	97	1.6775	.59664	.06058
	< 6	138	1.8783	.62729	.05340
C9 16. Delegates responsibility and authority to personnel according to departmental objectives	>= 6	97	1.86	1.000	.102
	< 6	137	1.93	.893	.076
C10 17. Has the ability to manage diversity through leadership-ensures compliance with EOE and affirmative action	>= 6	97	1.85	1.034	.105
	< 6	137	1.73	.853	.073
C11 18. Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees	>= 6	97	1.38	.714	.072
	< 6	138	1.45	.695	.059
C15 22. Understands the role of the leader within the company culture and has the ability to develop leadership in others	>= 6	94	1.46	.634	.065
	< 6	130	1.77	.773	.068
C36 43. Creates a shared vision with team members through the process of empowerment	>= 6	89	1.82	.847	.090
	< 6	126	2.02	.815	.073
C37 44. Ability to develop	>= 6	90	1.82	.829	.087

professional goals and action plans to achieve career objectives for self and staff	< 6	125	1.98	.751	.067
C38 45. Understands and practices total quality management	>= 6	88	1.63	.700	.075
	< 6	126	2.17	.978	.087

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
Leadership Construct	Equal variances assumed	.089	.766	-2.465
	Equal variances not assumed			-2.487
C9 16. Delegates responsibility and authority to personnel according to departmental objectives	Equal variances assumed	.403	.526	-.631
	Equal variances not assumed			-.619
C10 17. Has the ability to manage diversity through leadership-ensures compliance with EOE and affirmative action	Equal variances assumed	1.165	.282	.933
	Equal variances not assumed			.903
C11 18. Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees	Equal variances assumed	.638	.425	-.729
	Equal variances not assumed			-.725
C15 22. Understands the role of the leader within the company culture and has the ability to develop leadership in others	Equal variances assumed	3.076	.081	-3.208
	Equal variances not assumed			-3.311

C36 43. Creates a shared vision with team members through the process of empowerment	Equal variances assumed	.611	.435	-1.776
	Equal variances not assumed			-1.764
C37 44. Ability to develop professional goals and action plans to achieve career objectives for self and staff	Equal variances assumed	7.063	.008	-1.492
	Equal variances not assumed			-1.468
C38 45. Understands and practices total quality management	Equal variances assumed	3.904	.049	-4.459
	Equal variances not assumed			-4.723

APPENDIX G: ANOVA AND POST HOC TESTS

Independent Samples Test

		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Leadership Construct	Equal variances assumed	233	.014	-.20081
	Equal variances not assumed	213.019	.014	-.20081
C9 16. Delegates responsibility and authority to personnel according to departmental objectives	Equal variances assumed	232	.528	-.079
	Equal variances not assumed	191.827	.536	-.079
C10 17. Has the ability to manage diversity through leadership-ensures compliance with EOE and affirmative action	Equal variances assumed	232	.352	.115
	Equal variances not assumed	181.128	.368	.115
C11 18. Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees	Equal variances assumed	233	.467	-.068
	Equal variances not assumed	203.315	.469	-.068
C15 22. Understands the role of the leader within the company culture and has the ability to develop leadership in others	Equal variances assumed	222	.002	-.312
	Equal variances not assumed	218.472	.001	-.312

C36 43. Creates a shared vision with team members through the process of empowerment	Equal variances assumed	213	.077	-.204
	Equal variances not assumed	184.963	.079	-.204
C37 44. Ability to develop professional goals and action plans to achieve career objectives for self and staff	Equal variances assumed	213	.137	-.162
	Equal variances not assumed	180.152	.144	-.162
C38 45. Understands and practices total quality management	Equal variances assumed	212	.000	-.542
	Equal variances not assumed	211.855	.000	-.542

Independent Samples Test

		t-test for Equality of Means		
			95% Confidence Interval of the Difference	
		Std. Error Difference	Lower	Upper
Leadership Construct	Equal variances assumed	.08147	-.36132	-.04031
	Equal variances not assumed	.08075	-.35999	-.04163
C9 16. Delegates responsibility and authority to personnel according to departmental objectives	Equal variances assumed	.125	-.324	.167
	Equal variances not assumed	.127	-.329	.172
C10 17. Has the ability to manage diversity through leadership-ensures compliance with EOE and affirmative action	Equal variances assumed	.124	-.128	.359
	Equal variances not assumed	.128	-.137	.368
C11 18. Develops positive employee relations by encouraging, motivating, mentoring, coaching and counseling employees	Equal variances assumed	.093	-.251	.116
	Equal variances not assumed	.094	-.252	.117
C15 22. Understands the role of the leader within the company culture and has the ability to develop leadership in others	Equal variances assumed	.097	-.503	-.120
	Equal variances not assumed	.094	-.497	-.126

C36 43. Creates a shared vision with team members through the process of empowerment	Equal variances assumed	.115	-.430	.022
	Equal variances not assumed	.115	-.431	.024
C37 44. Ability to develop professional goals and action plans to achieve career objectives for self and staff	Equal variances assumed	.108	-.376	.052
	Equal variances not assumed	.110	-.379	.056
C38 45. Understands and practices total quality management	Equal variances assumed	.121	-.781	-.302
	Equal variances not assumed	.115	-.768	-.316

Descriptives

						95% Confidence Interval for Mean				Between-Com-
		N	Mean	Std. Dev.	Std. Error	Lower Bound	Upper Bound	Min	Max	ponent Variance
Administrative Construct	Hospitality Educator	110	1.8875	.58724	.05599	1.7766	1.9985	1.00	3.46	
	Culinary Educator	21	1.7403	.43550	.09503	1.5421	1.9386	1.00	2.85	
	Chef Practitioner	43	1.7866	.54643	.08333	1.6184	1.9548	1.00	3.00	
	Chef Owner	51	2.1451	.80278	.11241	1.9193	2.3709	1.00	4.23	
	Total	225	1.9129	.63484	.04232	1.8295	1.9963	1.00	4.23	

	Model	Fixed Effects		.62434	.04162	1.8309	1.9949		
		Random Effects			.09155	1.6215	2.2042		.01981
Leadership Construct	Hospitality Educator		116	1.8953	.62956	.05845	1.7795	2.0111	1.00	4.00
	Culinary Educator		22	1.7884	.62172	.13255	1.5128	2.0641	1.14	4.00
	Chef Practitioner		44	1.5119	.39750	.05993	1.3911	1.6328	1.00	2.43
	Chef Owner		53	1.8149	.69577	.09557	1.6231	2.0067	1.00	3.43
	Total		235	1.7954	.62148	.04054	1.7155	1.8753	1.00	4.00
	Model	Fixed Effects			.60897	.03972	1.7171	1.8737		
		Random Effects				.09705	1.4865	2.1042		.02317
Conceptual Construct	Hospitality Educator		117	2.3692	.68223	.06307	2.2443	2.4941	1.00	4.13
	Culinary Educator		22	2.1948	.63374	.13511	1.9138	2.4758	1.25	4.00
	Chef Practitioner		44	2.1323	.80007	.12062	1.8891	2.3755	1.00	3.63
	Chef Owner		53	2.4946	.87524	.12022	2.2534	2.7359	1.00	4.63
	Total		236	2.3369	.75374	.04906	2.2403	2.4336	1.00	4.63

	Model	Fixed Effects			.74794	.04869	2.2410	2.4329		
		Random Effects				.08267	2.0738	2.6000		.01314
Interpersonal Construct	Hospitality Educator		110	1.3557	.41161	.03925	1.2779	1.4335	1.00	2.71
	Culinary Educator		21	1.2925	.46396	.10124	1.0813	1.5037	1.00	2.57
	Chef Practitioner		43	1.3023	.32727	.04991	1.2016	1.4030	1.00	2.14
	Chef Owner		51	1.3725	.41200	.05769	1.2566	1.4883	1.00	2.43
	Total		225	1.3434	.40058	.02671	1.2908	1.3960	1.00	2.71
	Model	Fixed Effects			.40224	.02682	1.2906	1.3963		
		Random Effects				.02682[a]	1.2581[a]	1.4287[a]		-.00200
Technical Construct	Hospitality Educator		110	1.6709	.60976	.05814	1.5557	1.7861	1.00	3.80
	Culinary Educator		21	1.7143	.45419	.09911	1.5075	1.9210	1.00	2.40
	Chef Practitioner		43	1.5093	.50371	.07681	1.3543	1.6643	1.00	3.00
	Chef Owner		51	1.7686	.68746	.09626	1.5753	1.9620	1.00	4.00
	Total		225	1.6662	.59979	.03999	1.5874	1.7450	1.00	4.00

	Model	Fixed Effects	.59765	.03984	1.5877	1.7447
		Random Effects		.05361	1.4956	1.8368	.00383

a. Warning: Between-component variance is negative. It was replaced by 0.0 in computing this random effects measure.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Administrative Construct	Between Groups	4.131	3	1.377	3.533	.016
	Within Groups	86.146	221	.390		
	Total	90.277	224			
Leadership Construct	Between Groups	4.716	3	1.572	4.239	.006
	Within Groups	85.664	231	.371		
	Total	90.380	234			
Conceptual Construct	Between Groups	3.726	3	1.242	2.220	.087
	Within Groups	129.784	232	.559		
	Total	133.510	235			

Interpersonal Construct	Between Groups	.187	3	.062	.385	.764
	Within Groups	35.757	221	.162		
	Total	35.944	224			
Technical Construct	Between Groups	1.645	3	.548	1.535	.206
	Within Groups	78.939	221	.357		
	Total	80.583	224			

Post Hoc Tests

Multiple Comparisons

Dependent Variable		(I) 1. Specify your current professional career	(J) 1. Specify your current professional career	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Administrative Construct	Tukey HSD	Hospitality Educator	Culinary Educator	.14720	.14868	.755	-.2377	.5321
			Chef Practitioner	.10092	.11229	.805	-.1898	.3916
			Chef Owner	-.25754	.10577	.074	-.5313	.0163
		Culinary Educator	Hospitality Educator	-.14720	.14868	.755	-.5321	.2377
			Chef Practitioner	-.04627	.16621	.992	-.4765	.3840
			Chef Owner	-.40473	.16188	.063	-.8238	.0143
		Chef Practitioner	Hospitality Educator	-.10092	.11229	.805	-.3916	.1898
			Culinary Educator	.04627	.16621	.992	-.3840	.4765
			Chef Owner	-.35846*	.12926	.030	-.6931	-.0238

	Chef Owner	Hospitality Educator	.25754	.10577	.074	-.0163	.5313
		Culinary Educator	.40473	.16188	.063	-.0143	.8238
		Chef Practitioner	.35846*	.12926	.030	.0238	.6931
Hochberg	Hospitality Educator	Culinary Educator	.14720	.14868	.902	-.2474	.5418
		Chef Practitioner	.10092	.11229	.936	-.1971	.3989
		Chef Owner	-.25754	.10577	.090	-.5382	.0231
	Culinary Educator	Hospitality Educator	-.14720	.14868	.902	-.5418	.2474
		Chef Practitioner	-.04627	.16621	1.000	-.4874	.3948
		Chef Owner	-.40473	.16188	.076	-.8343	.0249
	Chef Practitioner	Hospitality Educator	-.10092	.11229	.936	-.3989	.1971
		Culinary Educator	.04627	.16621	1.000	-.3948	.4874
		Chef Owner	-.35846*	.12926	.036	-.7015	-.0154
	Chef Owner	Hospitality Educator	.25754	.10577	.090	-.0231	.5382

		Culinary Educator	.40473	.16188	.076	-.0249	.8343
		Chef Practitioner	.35846*	.12926	.036	.0154	.7015
Games-Howell	Hospitality Educator	Culinary Educator	.14720	.11030	.548	-.1501	.4445
		Chef Practitioner	.10092	.10039	.747	-.1624	.3642
		Chef Owner	-.25754	.12558	.179	-.5874	.0724
	Culinary Educator	Hospitality Educator	-.14720	.11030	.548	-.4445	.1501
		Chef Practitioner	-.04627	.12639	.983	-.3824	.2899
		Chef Owner	-.40473*	.14720	.038	-.7929	-.0165
	Chef Practitioner	Hospitality Educator	-.10092	.10039	.747	-.3642	.1624
		Culinary Educator	.04627	.12639	.983	-.2899	.3824
		Chef Owner	-.35846	.13993	.058	-.7249	.0080
	Chef Owner	Hospitality Educator	.25754	.12558	.179	-.0724	.5874
		Culinary Educator	.40473*	.14720	.038	.0165	.7929

			Chef Practitioner	.35846	.13993	.058	-.0080	.7249
Leadership Construct	Tukey HSD	Hospitality Educator	Culinary Educator	.10690	.14161	.875	-.2596	.4734
			Chef Practitioner	.38342*	.10782	.003	.1044	.6624
			Chef Owner	.08041	.10096	.856	-.1809	.3417
		Culinary Educator	Hospitality Educator	-.10690	.14161	.875	-.4734	.2596
			Chef Practitioner	.27652	.15901	.306	-.1350	.6880
			Chef Owner	-.02649	.15445	.998	-.4262	.3732
		Chef Practitioner	Hospitality Educator	-.38342*	.10782	.003	-.6624	-.1044
			Culinary Educator	-.27652	.15901	.306	-.6880	.1350
			Chef Owner	-.30301	.12420	.073	-.6244	.0184
		Chef Owner	Hospitality Educator	-.08041	.10096	.856	-.3417	.1809
			Culinary Educator	.02649	.15445	.998	-.3732	.4262
			Chef Practitioner	.30301	.12420	.073	-.0184	.6244
	Hochberg	Hospitality Educator	Culinary Educator	.10690	.14161	.972	-.2688	.4826

		Chef Practitioner	.38342*	.10782	.003	.0974	.6694
		Chef Owner	.08041	.10096	.964	-.1874	.3482
	Culinary Educator	Hospitality Educator	-.10690	.14161	.972	-.4826	.2688
		Chef Practitioner	.27652	.15901	.405	-.1453	.6983
		Chef Owner	-.02649	.15445	1.000	-.4362	.3832
	Chef Practitioner	Hospitality Educator	-.38342*	.10782	.003	-.6694	-.0974
		Culinary Educator	-.27652	.15901	.405	-.6983	.1453
		Chef Owner	-.30301	.12420	.089	-.6325	.0265
	Chef Owner	Hospitality Educator	-.08041	.10096	.964	-.3482	.1874
		Culinary Educator	.02649	.15445	1.000	-.3832	.4362
		Chef Practitioner	.30301	.12420	.089	-.0265	.6325
Games-Howell	Hospitality Educator	Culinary Educator	.10690	.14487	.881	-.2872	.5010
		Chef Practitioner	.38342*	.08371	.000	.1654	.6015
		Chef Owner	.08041	.11203	.890	-.2127	.3735

		Culinary Educator	Hospitality Educator	-.10690	.14487	.881	-.5010	.2872
			Chef Practitioner	.27652	.14547	.249	-.1191	.6722
			Chef Owner	-.02649	.16341	.998	-.4629	.4099
		Chef Practitioner	Hospitality Educator	-.38342*	.08371	.000	-.6015	-.1654
			Culinary Educator	-.27652	.14547	.249	-.6722	.1191
			Chef Owner	-.30301*	.11280	.042	-.5986	-.0074
		Chef Owner	Hospitality Educator	-.08041	.11203	.890	-.3735	.2127
			Culinary Educator	.02649	.16341	.998	-.4099	.4629
			Chef Practitioner	.30301*	.11280	.042	.0074	.5986
Conceptual Construct	Tukey HSD	Hospitality Educator	Culinary Educator	.17440	.17381	.748	-.2754	.6242
			Chef Practitioner	.23690	.13227	.280	-.1054	.5792
			Chef Owner	-.12541	.12384	.742	-.4459	.1951
		Culinary Educator	Hospitality Educator	-.17440	.17381	.748	-.6242	.2754
			Chef Practitioner	.06250	.19530	.989	-.4429	.5679

		Chef Owner	-.29980	.18969	.392	-.7907	.1911
	Chef Practitioner	Hospitality Educator	-.23690	.13227	.280	-.5792	.1054
		Culinary Educator	-.06250	.19530	.989	-.5679	.4429
		Chef Owner	-.36230	.15254	.085	-.7570	.0324
	Chef Owner	Hospitality Educator	.12541	.12384	.742	-.1951	.4459
		Culinary Educator	.29980	.18969	.392	-.1911	.7907
		Chef Practitioner	.36230	.15254	.085	-.0324	.7570
Hochberg	Hospitality Educator	Culinary Educator	.17440	.17381	.897	-.2867	.6355
		Chef Practitioner	.23690	.13227	.370	-.1140	.5878
		Chef Owner	-.12541	.12384	.893	-.4539	.2031
	Culinary Educator	Hospitality Educator	-.17440	.17381	.897	-.6355	.2867
		Chef Practitioner	.06250	.19530	1.000	-.4556	.5806
		Chef Owner	-.29980	.18969	.518	-.8030	.2034
	Chef Practitioner	Hospitality Educator	-.23690	.13227	.370	-.5878	.1140

		Culinary Educator	-.06250	.19530	1.000	-.5806	.4556
		Chef Owner	-.36230	.15254	.105	-.7669	.0423
	Chef Owner	Hospitality Educator	.12541	.12384	.893	-.2031	.4539
		Culinary Educator	.29980	.18969	.518	-.2034	.8030
		Chef Practitioner	.36230	.15254	.105	-.0423	.7669
Games-Howell	Hospitality Educator	Culinary Educator	.17440	.14911	.650	-.2304	.5792
		Chef Practitioner	.23690	.13611	.311	-.1216	.5954
		Chef Owner	-.12541	.13576	.792	-.4815	.2307
	Culinary Educator	Hospitality Educator	-.17440	.14911	.650	-.5792	.2304
		Chef Practitioner	.06250	.18112	.986	-.4183	.5433
		Chef Owner	-.29980	.18086	.356	-.7793	.1797
	Chef Practitioner	Hospitality Educator	-.23690	.13611	.311	-.5954	.1216
		Culinary Educator	-.06250	.18112	.986	-.5433	.4183
		Chef Owner	-.36230	.17030	.152	-.8077	.0831

		Chef Owner	Hospitality Educator	.12541	.13576	.792	-.2307	.4815
			Culinary Educator	.29980	.18086	.356	-.1797	.7793
			Chef Practitioner	.36230	.17030	.152	-.0831	.8077
Interpersonal Construct	Tukey HSD	Hospitality Educator	Culinary Educator	.06320	.09579	.912	-.1848	.3112
			Chef Practitioner	.05339	.07234	.882	-.1339	.2407
			Chef Owner	-.01674	.06814	.995	-.1931	.1597
		Culinary Educator	Hospitality Educator	-.06320	.09579	.912	-.3112	.1848
			Chef Practitioner	-.00981	.10709	1.000	-.2870	.2674
			Chef Owner	-.07994	.10429	.869	-.3499	.1900
		Chef Practitioner	Hospitality Educator	-.05339	.07234	.882	-.2407	.1339
			Culinary Educator	.00981	.10709	1.000	-.2674	.2870
			Chef Owner	-.07013	.08328	.834	-.2857	.1455
		Chef Owner	Hospitality Educator	.01674	.06814	.995	-.1597	.1931
			Culinary Educator	.07994	.10429	.869	-.1900	.3499

		Chef Practitioner	.07013	.08328	.834	-.1455	.2857
Hochberg	Hospitality Educator	Culinary Educator	.06320	.09579	.986	-.1910	.3174
		Chef Practitioner	.05339	.07234	.975	-.1386	.2454
		Chef Owner	-.01674	.06814	1.000	-.1976	.1641
	Culinary Educator	Hospitality Educator	-.06320	.09579	.986	-.3174	.1910
		Chef Practitioner	-.00981	.10709	1.000	-.2940	.2744
		Chef Owner	-.07994	.10429	.970	-.3567	.1968
	Chef Practitioner	Hospitality Educator	-.05339	.07234	.975	-.2454	.1386
		Culinary Educator	.00981	.10709	1.000	-.2744	.2940
		Chef Owner	-.07013	.08328	.953	-.2911	.1509
	Chef Owner	Hospitality Educator	.01674	.06814	1.000	-.1641	.1976
		Culinary Educator	.07994	.10429	.970	-.1968	.3567
		Chef Practitioner	.07013	.08328	.953	-.1509	.2911
Games-Howell	Hospitality Educator	Culinary Educator	.06320	.10858	.937	-.2344	.3608

			Chef Practitioner	.05339	.06349	.835	-.1126	.2194
			Chef Owner	-.01674	.06977	.995	-.1991	.1656
		Culinary Educator	Hospitality Educator	-.06320	.10858	.937	-.3608	.2344
			Chef Practitioner	-.00981	.11288	1.000	-.3167	.2971
			Chef Owner	-.07994	.11653	.902	-.3948	.2349
		Chef Practitioner	Hospitality Educator	-.05339	.06349	.835	-.2194	.1126
			Culinary Educator	.00981	.11288	1.000	-.2971	.3167
			Chef Owner	-.07013	.07628	.795	-.2697	.1295
		Chef Owner	Hospitality Educator	.01674	.06977	.995	-.1656	.1991
			Culinary Educator	.07994	.11653	.902	-.2349	.3948
			Chef Practitioner	.07013	.07628	.795	-.1295	.2697
Technical Construct	Tukey HSD	Hospitality Educator	Culinary Educator	-.04338	.14232	.990	-.4118	.3251
			Chef Practitioner	.16161	.10749	.437	-.1166	.4399
			Chef Owner	-.09772	.10125	.769	-.3598	.1644

	Culinary Educator	Hospitality Educator	.04338	.14232	.990	-.3251	.4118
		Chef Practitioner	.20498	.15911	.571	-.2069	.6169
		Chef Owner	-.05434	.15496	.985	-.4555	.3468
	Chef Practitioner	Hospitality Educator	-.16161	.10749	.437	-.4399	.1166
		Culinary Educator	-.20498	.15911	.571	-.6169	.2069
		Chef Owner	-.25933	.12374	.158	-.5796	.0610
	Chef Owner	Hospitality Educator	.09772	.10125	.769	-.1644	.3598
		Culinary Educator	.05434	.15496	.985	-.3468	.4555
		Chef Practitioner	.25933	.12374	.158	-.0610	.5796
Hochberg	Hospitality Educator	Culinary Educator	-.04338	.14232	1.000	-.4211	.3343
		Chef Practitioner	.16161	.10749	.576	-.1236	.4469
		Chef Owner	-.09772	.10125	.912	-.3664	.1710
	Culinary Educator	Hospitality Educator	.04338	.14232	1.000	-.3343	.4211
		Chef Practitioner	.20498	.15911	.733	-.2173	.6272

		Chef Owner	-.05434	.15496	1.000	-.4656	.3569
	Chef Practitioner	Hospitality Educator	-.16161	.10749	.576	-.4469	.1236
		Culinary Educator	-.20498	.15911	.733	-.6272	.2173
		Chef Owner	-.25933	.12374	.203	-.5877	.0690
	Chef Owner	Hospitality Educator	.09772	.10125	.912	-.1710	.3664
		Culinary Educator	.05434	.15496	1.000	-.3569	.4656
		Chef Practitioner	.25933	.12374	.203	-.0690	.5877
Games-Howell	Hospitality Educator	Culinary Educator	-.04338	.11491	.981	-.3531	.2664
		Chef Practitioner	.16161	.09634	.341	-.0905	.4137
		Chef Owner	-.09772	.11246	.821	-.3922	.1968
	Culinary Educator	Hospitality Educator	.04338	.11491	.981	-.2664	.3531
		Chef Practitioner	.20498	.12539	.370	-.1299	.5399
		Chef Owner	-.05434	.13817	.979	-.4202	.3116
	Chef Practitioner	Hospitality Educator	-.16161	.09634	.341	-.4137	.0905

	Culinary Educator	-.20498	.12539	.370	-.5399	.1299
	Chef Owner	-.25933	.12315	.159	-.5817	.0630
Chef Owner	Hospitality Educator	.09772	.11246	.821	-.1968	.3922
	Culinary Educator	.05434	.13817	.979	-.3116	.4202
	Chef Practitioner	.25933	.12315	.159	-.0630	.5817

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

Administrative Construct

	1. Specify your current professional career	N	Subset for alpha = 0.05	
			1	2
Tukey HSD[a,,b]	Culinary Educator	21	1.7403	
	Chef Practitioner	43	1.7866	1.7866
	Hospitality Educator	110	1.8875	1.8875
	Chef Owner	51		2.1451
	Sig.		.716	.052
Hochberg[a,, b]	Culinary Educator	21	1.7403	
	Chef Practitioner	43	1.7866	1.7866
	Hospitality Educator	110	1.8875	1.8875
	Chef Owner	51		2.1451
	Sig.		.872	.062

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 40.171.

Administrative Construct

	1. Specify your current professional career	N	Subset for alpha = 0.05	
			1	2
Tukey HSD[a,,b]	Culinary Educator	21	1.7403	
	Chef Practitioner	43	1.7866	1.7866
	Hospitality Educator	110	1.8875	1.8875
	Chef Owner	51		2.1451
	Sig.		.716	.052
Hochberg[a,,b]	Culinary Educator	21	1.7403	
	Chef Practitioner	43	1.7866	1.7866
	Hospitality Educator	110	1.8875	1.8875
	Chef Owner	51		2.1451
	Sig.		.872	.062

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 40.171.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Leadership Construct

	1. Specify your current professional career	N	Subset for alpha = 0.05	
			1	2
Tukey HSD[a,,b]	Chef Practitioner	44	1.5119	
	Culinary Educator	22	1.7884	1.7884
	Chef Owner	53	1.8149	1.8149
	Hospitality Educator	116		1.8953
	Sig.		.107	.853
Hochberg[a,,b]	Chef Practitioner	44	1.5119	
	Culinary Educator	22	1.7884	1.7884
	Chef Owner	53	1.8149	1.8149
	Hospitality Educator	116		1.8953
	Sig.		.134	.962

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 41.810.

Leadership Construct

	1. Specify your current professional career	N	Subset for alpha = 0.05	
			1	2
Tukey HSD[a,,b]	Chef Practitioner	44	1.5119	
	Culinary Educator	22	1.7884	1.7884
	Chef Owner	53	1.8149	1.8149
	Hospitality Educator	116		1.8953
	Sig.		.107	.853
Hochberg[a,,b]	Chef Practitioner	44	1.5119	
	Culinary Educator	22	1.7884	1.7884
	Chef Owner	53	1.8149	1.8149
	Hospitality Educator	116		1.8953
	Sig.		.134	.962

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 41.810.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Conceptual Construct

	1. Specify your current professional career	N	Subset for alpha = 0.05
			1
Tukey HSD[a,,b]	Chef Practitioner	44	2.1323
	Culinary Educator	22	2.1948
	Hospitality Educator	117	2.3692
	Chef Owner	53	2.4946
	Sig.		.122
Hochberg[a,,b]	Chef Practitioner	44	2.1323
	Culinary Educator	22	2.1948
	Hospitality Educator	117	2.3692
	Chef Owner	53	2.4946
	Sig.		.154

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 41.842.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Interpersonal Construct

	1. Specify your current professional career	N	Subset for alpha = 0.05
			1
Tukey HSD[a,,b]	Culinary Educator	21	1.2925
	Chef Practitioner	43	1.3023
	Hospitality Educator	110	1.3557
	Chef Owner	51	1.3725
	Sig.		.810
Hochberg[a,, b]	Culinary Educator	21	1.2925
	Chef Practitioner	43	1.3023
	Hospitality Educator	110	1.3557
	Chef Owner	51	1.3725
	Sig.		.939

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 40.171.

Interpersonal Construct

	1. Specify your current professional career	N	Subset for alpha = 0.05 1
Tukey HSD[a,,b]	Culinary Educator	21	1.2925
	Chef Practitioner	43	1.3023
	Hospitality Educator	110	1.3557
	Chef Owner	51	1.3725
	Sig.		.810
Hochberg[a,,b]	Culinary Educator	21	1.2925
	Chef Practitioner	43	1.3023
	Hospitality Educator	110	1.3557
	Chef Owner	51	1.3725
	Sig.		.939

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 40.171.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Technical Construct

	1. Specify your current professional career	N	Subset for alpha = 0.05 1
Tukey HSD[a,,b]	Chef Practitioner	43	1.5093
	Hospitality Educator	110	1.6709
	Culinary Educator	21	1.7143
	Chef Owner	51	1.7686
	Sig.		.213
Hochberg[a,,b]	Chef Practitioner	43	1.5093
	Hospitality Educator	110	1.6709
	Culinary Educator	21	1.7143
	Chef Owner	51	1.7686
	Sig.		.278

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 40.171.

Technical Construct

	1. Specify your current professional career	N	Subset for alpha = 0.05
			1
Tukey HSD[a,,b]	Chef Practitioner	43	1.5093
	Hospitality Educator	110	1.6709
	Culinary Educator	21	1.7143
	Chef Owner	51	1.7686
	Sig.		.213
Hochberg[a,,b]	Chef Practitioner	43	1.5093
	Hospitality Educator	110	1.6709
	Culinary Educator	21	1.7143
	Chef Owner	51	1.7686
	Sig.		.278

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 40.171.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

APPENDIX H: OPEN-ENDED RESPONSES TO THE SURVEY

Page 7, Q2. 50. Are there any other competencies that you believe are essential or of considerable importance which should be included in a Culinary Arts Bachelor Degree?

1	Ability to speak Spanish	Dec 15, 2009 6:34 PM
2	Ethics of culinary practices Food history and knowledge of spices	Dec 15, 2009 8:50 PM
3	Good personality and leadership skills. Service oriented and engage in citizenship behavior.	Dec 15, 2009 10:02 PM
4	.Your statements are loaded - need to be simplified. Good luck with the project. Happy Holidays,	Dec 15, 2009 11:45 PM
5	I am personally offended about your marital status. I am a Gay male with a partner of 14 years. You did not include me in your choices at ALL!! Who ever developed this survey needs a LOT of diversity training. Thanks!	Dec 16, 2009 1:03 AM
6	TQM is organisationn wide. It is not a competence.	Dec 16, 2009 4:25 AM
7	None I can think of	Dec 16, 2009 8:04 AM
8	Appreciation of Food and Beverage Service skills and competencies. Pairing of food and beverages. Nutrition and Diet.	Dec 16, 2009 8:53 AM
9	regional and international food knowledge trends	Dec 16, 2009 9:13 AM
10	Number 26 and 35 are the same question. number 41 seems like a dup. Not sure you intended for that to happen. Also, why did you not ask if we had any culinary training? There are those of us with culinary traiing and advanced degrees. It might have added some additoinal value to the demographics.	Dec 16, 2009 9:14 AM
11	I am a tourism educator, not your target	Dec 16, 2009 10:05 AM
12	NRA just conducted the DACUM process for a job analysis for a Foodservice Management Professional Certification - you may wish to contact Randal or Joanne at the NRAEF to be added to the mailing list for this. I have conducted a DACUM for both Culinary positions and Hospitality Management positions. In answering your questionnaire I tried to call upon my DACUM experiences as reference points. I wish you the best with your dissertation.	Dec 16, 2009 11:54 AM
13	NO	Dec 16, 2009 12:48 PM
14	can cook !	Dec 16, 2009 5:58 PM
15	Practical knowledge of the field- work experience	Dec 16, 2009 9:00 PM
16	Emotional intelligence Participative and supportive leadership skills Interpersonal skills	Dec 20, 2009 1:51 PM
17	I feel these are far too many competencies expected of a person with a Culinary Arts degree.	Jan 6, 2010 2:24 PM
18	ability to understand that you have to earn your way up	Jan 6, 2010 2:28 PM

Page 7, Q2. 50. Are there any other competencies that you believe are essential or of considerable importance which should be included in a Culinary Arts Bachelor Degree?

19	This survey is at odds with itself. Presumably this is an entry-level position. Then there are questions which more appropriately apply to a seasoned professional. If an entry level person starts "managing" a long-time employee, the fur will fly. And now there's reference to a Culinary Arts Bachelor Degree. Entry-level means "learning level." Skill and aptitudes are essential, but many of your question have nothing to do with a "beginner" role.	Jan 6, 2010 2:35 PM
20	if a culinary arts degree is the goal, the focus should be on development of foundation based culinary and related service skills, knowledge (east and /or western) and attitudes; curiosity and development of palate through tasting and analysis of flavors and combinations; the managerial aspects of culinary mgt. are important, but without the passion and the dedication to the craft and its aesthetics sensibilities, what is the point. Who is the targeted market for yet another culinary arts degree?	Jan 6, 2010 2:42 PM
21	Common sense and a spirit of customer service.	Jan 6, 2010 2:52 PM
22	Essential- a class that defines job options in other areas of the culinary arts. Many students who go into this field do not want to work in restaurants. A class that allows opportunities to see into other facets would be absolutely beneficial. (for example food styling/photography, food writer, teacher, consultants, etc.-- this helps if to help them determine if they need more education or not as well.)	Jan 6, 2010 3:17 PM
23	These answers suggest entry level without significant industry work experience. Many "essentials" will be developed with on-the-job training and assimilation.	Jan 6, 2010 3:18 PM
24	at least first level spanish if one is working in the NYC/tri-state area	Jan 6, 2010 4:03 PM
25	Just a comment on my answers--so many of them depend on what the direct responsibilities of the individual are immediately upon hiring. Directly supervised and mentored or not?	Jan 6, 2010 4:56 PM
26	passion is the essential ingredient in our industry	Jan 6, 2010 7:39 PM
27	Must have values of integrity, respect, citizenship and excellence.	Jan 6, 2010 9:32 PM
28	They must have basic wine and beverage knowledge, and a solid understanding of how the front of the house is run.	Jan 6, 2010 10:17 PM
29	Culinary managers need to understand that the team is the most important part of being in a restaurant -- in many ways the dishwasher is the most important person!	Jan 7, 2010 12:10 AM
30	understands commuicative skills with a thought to diversity	Jan 7, 2010 1:36 AM
31	The person in question must love to cook, eat and enjoy food. That attitude will show up in every area of the business.	Jan 7, 2010 11:33 AM
32	Being able to earn and maintain the respect of different personalities working beneath her/him. Being able to anticipate problems and develop creative, effective solutions.	Jan 7, 2010 12:55 PM
33	Unfortunatly you can not teach good character.	Jan 7, 2010 1:04 PM

Page 7, Q2. 50. Are there any other competencies that you believe are essential or of considerable importance which should be included in a Culinary Arts Bachelor Degree?

34	Enviormental issues are the Future not only of this Country but world wide it needs to be enforced on a consistand bases were Federal Goverment plays a leading roll and stad to demand from his Citisent awareness and total commitment on a dayli bases	Jan 7, 2010 5:38 PM
35	A knowledge of Food Science	Jan 10, 2010 12:34 PM
36	for entry level, some of these are good to have but not "required" I've noticed so many "just out of school" culinarians have NONE of these attributes, which are so important. Many of these are learned on the job though, too.	Apr 7, 2010 1:47 PM
37	Value is also determined by attitude. Many graduates come to us expecting to immediately be involved with the previous competencies. Graduates need to understand that they are expected to work harder and smarter than anyone...especially employees that have been in their position for years without promotions. Education shows it's value once the student displays an attitiude of teamwork and support. I do not mentor students to skip the basics of hard work and reliability before moving them in to some of these administrative competencies. The evolution of great chefs is a journey that some graduates are not expecting to have to work hard for.	Apr 7, 2010 2:16 PM
38	This survey seems very "business-oriented" to me. EVERYONE in a restaurant should be concerned and caring about the food, the service, and the general care and handling of customers. Yes, a culinary manager trainee needs to know about the business side. But the food is paramount.	Apr 7, 2010 2:42 PM
39	Culinary BASICS BASICS BASICS	Apr 7, 2010 3:33 PM
40	Common sense; proactive problem solving - - having a plan B in mind before needing it	Apr 7, 2010 4:26 PM
41	I have rated several as less than essential because I believe that many of these skills can only be developed through experience in the particular environment, not though school/book learning even with elements of on-the-job training provided in many university programs.	Apr 7, 2010 4:36 PM
42	How about the ability to create attrctive, nutritious, and delicious food???	Apr 7, 2010 5:15 PM
43	What a treat it would be to attend a school that really prepares future Chefs with this information!	Apr 7, 2010 10:45 PM
44	Knowledge of Food Science and training in accurate recipe writing.	Apr 8, 2010 3:12 PM
45	must have a passion for food and must be able to communicate that passion with staff, customers, vendors and suppliers	Apr 8, 2010 3:22 PM
46	The individual must first and foremost be a master of his/her craft. One question in your survey discusses the ability to cook. One can have all the education in the world, but at the end of the day, if this individual doesn't possess a passion of the craft and a certain mastery of it, there won't be a lot of respect by his/her subordinates.	Apr 10, 2010 10:02 AM

Page 7, Q2. 50. Are there any other competencies that you believe are essential or of considerable importance which should be included in a Culinary Arts Bachelor Degree?

47	ability to speak at least one foreign language (not so much a specific language, this helps show empathy for employees who may not know English very well). Ability to communicate with the same amount of respect to the dishwasher or the CEO (can this be taught?)	Apr 14, 2010 12:45 AM
48	Work ethics is the biggest value in a entry level culinarian. Someone who keeps focust and has a good work ethics will go far in the industry.	Apr 17, 2010 1:37 AM
49	Understanding how to document an employee and coach and council. (Basic HR rules)Sexual harassment class. Public speaking for demonstrations etc.	May 6, 2010 10:50 AM